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SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
Bulletin 106

NORTH AMERICAN EARLY TERTIARY BRYOZOA

BY

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PLATES

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DESCRIPTION OF PLATES.

PLATE 1.

(Figures 1–4, 6, 7, 11, 12, 17, 18, 22, 23, 26–28 are after Ulrich, 1901.)

FIGS. 1, 2. *Membraniporina rimulata* Ulrich, 1901 (p. 94).

1. Surface of the incrusting zoarium, × 20, of the variety with small zooecia.

2. The type-specimen, × 20. Several calcified zooecia are present.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

FIGS. 3–5. *Ellisina spiculosa* Ulrich, 1901 (p. 127).

3. Surface of the incrusting type-specimen, × 20, illustrating arrangement of zooecia and ovicells.

4. Several zooecia of the same, × 30.

5. Photograph of the type × 20, showing avicularia.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

FIGS. 6–10. *Ellisina angusta* Ulrich, 1901 (p. 127).

6. Sketch of the incrusting zoarium, × 25, with ovicells present.

7. Several zooecia of another worn example, × 25, without ovicells.

8. Portion of a zoarium, × 20, illustrating occurrence of the septulae.

9. Another part of the same, × 20, with several broken ovicells.

10. Abraded surface, × 20, showing a large distal and a pair of lateral dietellae.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63775, U.S.N.M.

FIGS. 11–13. *Amphiblestrum heteropora* Gabb and Horn, 1862 (p. 158).

11. Surface of the Eocene form of the species, × 20.

12. A zooecium of the same, × 30.

13. Photograph of the Eocene type, × 20.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

FIG. 14. *Ramphonotus laevis*, new species (p. 164).

The incrusting zoarium, × 20, exhibiting ordinary, ovicelled, and calcified zooecia.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63776, U.S.N.M.

FIG. 15. *Stamenocella cylindrica*, new species (p. 168).

The free cylindrical type-specimen, × 20. Two zooecia at the top are calcified.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63777, U.S.N.M.

FIG. 16. *Euritina torta* Gabb and Horn, 1862 (p. 257).

An Eocene example of this bilamellate species, × 20.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63778, U.S.N.M.

FIGS. 17–19. *Lunularia reversa* Ulrich, 1901 (p. 240).

17. The celluliferous side of the type-specimen, × 25.

18. Inner side of the same example, × 20.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Two miles below Potomac Creek, Maryland.

19. Photograph, × 20.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63779, U.S.N.M.

FIGS. 20–21. *Macropora aquia*, new species (p. 277).

20. The incrusting zoarium, × 20, showing ancestrular region.

21. The ordinary zooecia, × 20, illustrating their hexagonal form. The lateral indentations of the aperture are visible.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63780, U.S.N.M.

FIGS. 22–25. *Membraniporella modesta* Ulrich, 1901 (p. 285).

22. The incrusting type-specimen, × 20, with several ovicelled zooecia.

23. An ordinary zooecium of the same, × 30.

24, 25. Two photographs of another specimen, × 20. The costules often show a lumen line.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63781, U.S.N.M.

FIG. 26. *Membraniporella crassula* Ulrich, 1901 (p. 285).

The incrusting type-specimen, × 20.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

FIGS. 27–31. *Bathosella aspera* Ulrich, 1901 (p. 405).

27, 28. Surface of the type-specimen, × 20, and a few zooecia of another example.

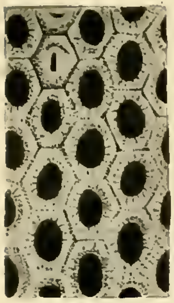
29. Photograph of another specimen, × 20, showing one aspect of the species.

30. Zooecia, × 20, with the ovicell preserved on several of them.

31. An example, × 20, with the avicularia and mucro well developed.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63782, U.S.N.M.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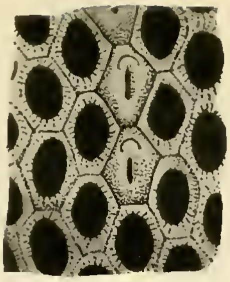
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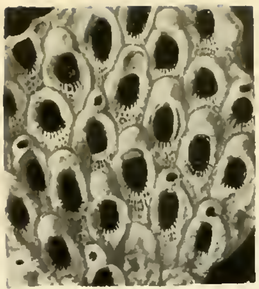
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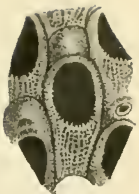
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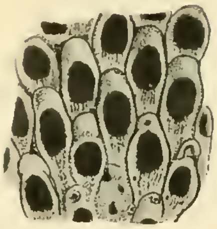
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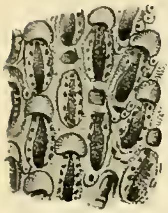
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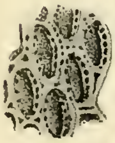
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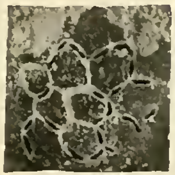
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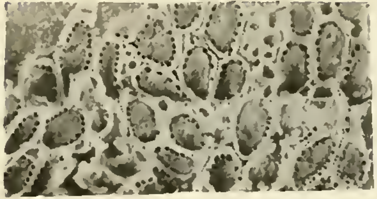
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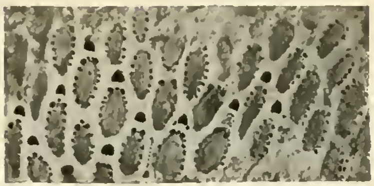
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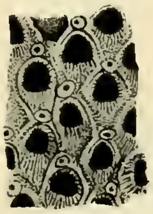
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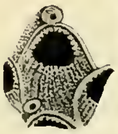
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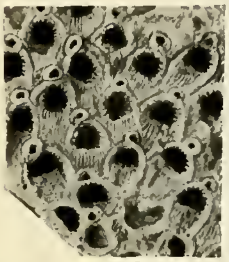
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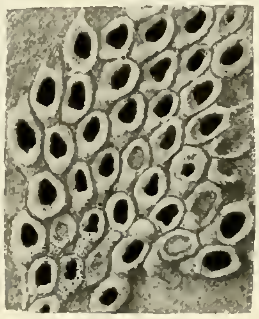
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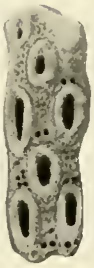
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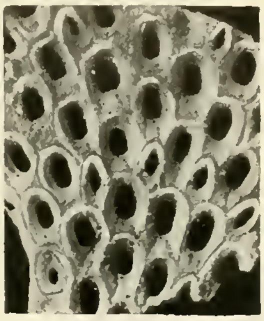
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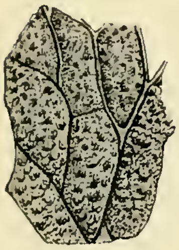
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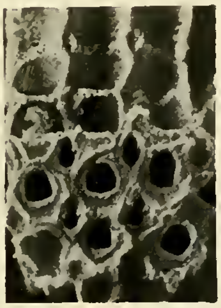
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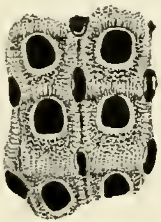
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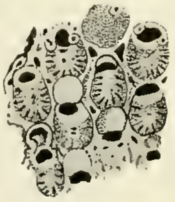
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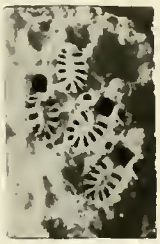
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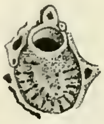
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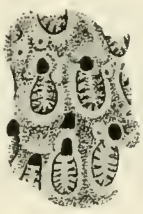
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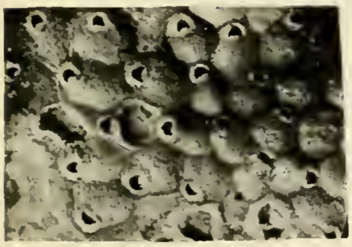
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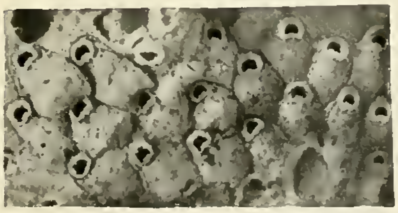
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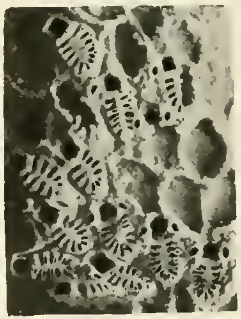
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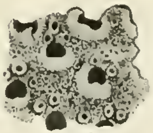
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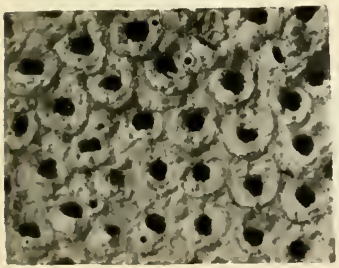
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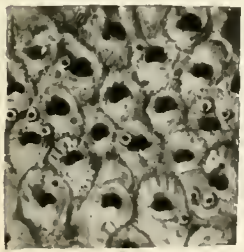
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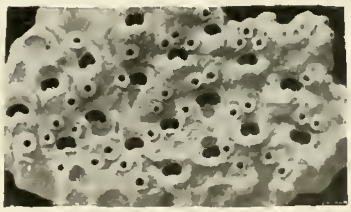
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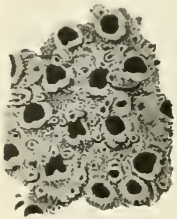
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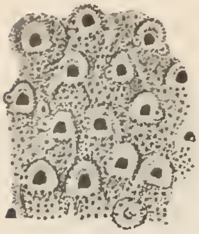
EARLIEST EOCENE CHEILOSTOMATOUS BRYOZOA.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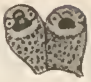
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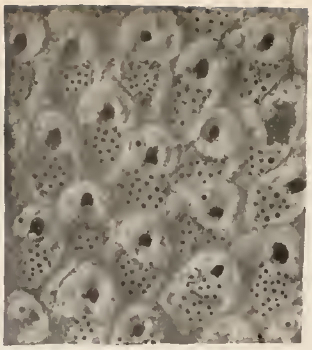
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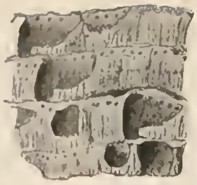
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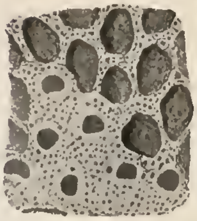
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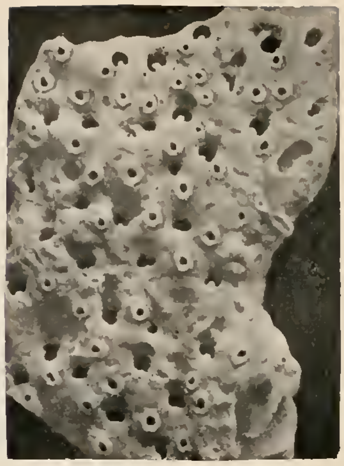
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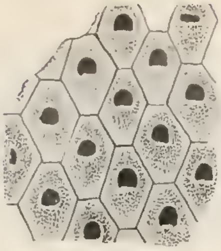
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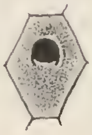
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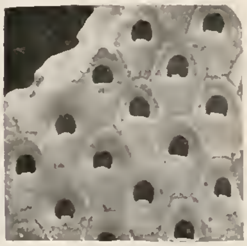
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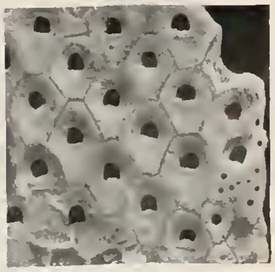
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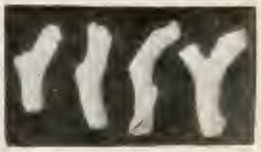
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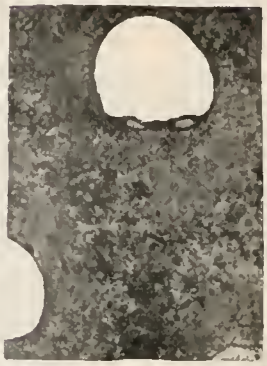
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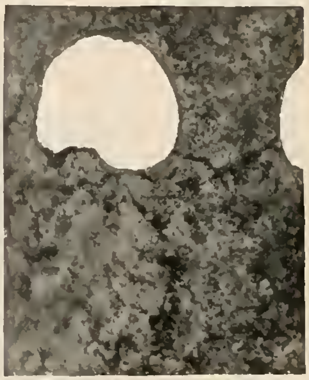
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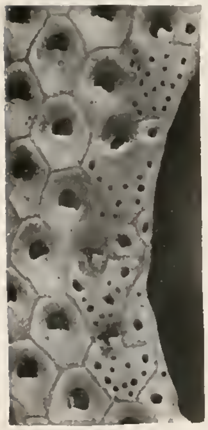
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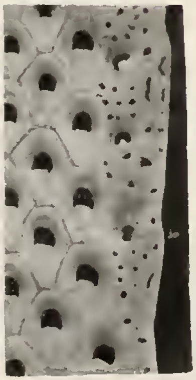
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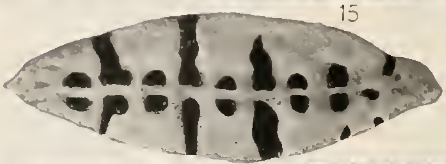
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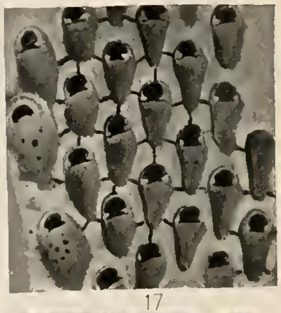
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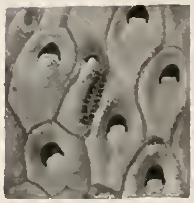
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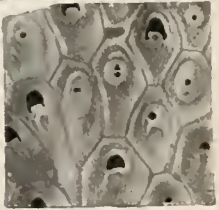
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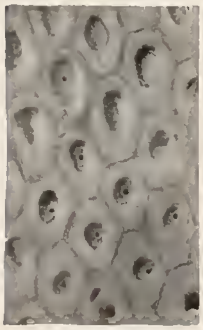
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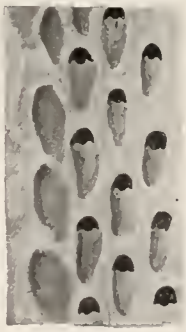
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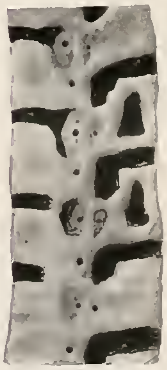
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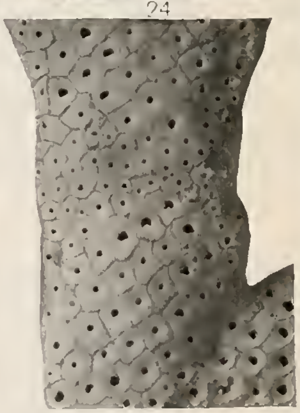
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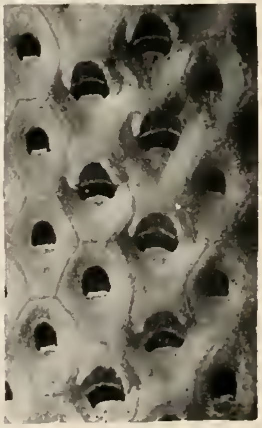
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Earliest Eocene Cheilostomatous Bryozoa.

Plate 2.

Figs. 1-3. *Cheilopora labiosa* Ulrich, 1901 (p. 526).

1, 2. Surface of the incrusting type-specimen, × 20, and two zooecia more enlarged. (After Ulrich, 1901.)

3. Photograph of another example, × 20.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63783, U.S.N.M.

Figs. 4, 5. *Meniscopora subplana* Ulrich, 1901 (p. 556).

4. Edge of a specimen, × 20, showing four layers of zooecia.

5. Surface of the multilamellar, incrusting zoarium, × 20. (Figs. 4, 5, after Ulrich, 1901.)

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Fig. 6. *Acanthionella simplex*, new species (p. 617).

The free bilamellar type-specimen, × 20. The large salient avicularium and the flat lyrula are quite visible.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63784, U.S.N.M.

Figs. 7–22. *Coscinopleura digitata* Morton, 1834 (p. 275).

7, 8. Surface of the Eocene form of this species, × 20, and a zooecium more highly magnified. (After Ulrich, 1901.)

9. Surface of a fragment, × 20.

10. Another fragment, × 20, with vibracular zooecia along the margin.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 63785, U.S.N.M.

11. Four fragments of the bifoliate zoarium, natural size. One preserves the expanded base.

12. Edge of a zoarium, × 20, exhibiting both vibracular and hydrostatic zooecia.

13. Another specimen, × 20, with vibracular zooecia only, along the margin.

14. Transverse section, × 20.

15. Tangential thin section of a zooecium, × 100, showing olocystal structure

16. Tangential thin section of a vibracular zooecium, × 100.

17. View of the interior of the zooecia, × 20, showing one distal and two lateral septulae.

18. Interior of the hydrostatic zooecia, × 20. The aperture is replaced by a small pore.

19. Interior of the ordinary zooecia, × 20. A collar with two small lateral grooves is shown in the aperture.

20. Longitudinal section, × 20, showing the lateral septulae.

21. Portion of a branch, × 20, in which hydrostatic zooecia occupy the entire breadth.

22. A fragment, × 25, with numerous ovicelled zooecia.

Cretaceous (Vincentown): Vincentown, New Jersey.

Cat. No. 63786, U.S.N.M.

Figs. 23, 24. *Coscinopleura clio* D'Orbigny, 1852.

23. View of the surface, × 20, showing a vibraculum with perforated lamina (=cribriform area).

24. Another photograph, × 20, illustrating zooecia with calcified apertures.

Cretaceous of France.

PLATE 3.

FIG. 1. *Pyripora parvicella*, new species (p. 80).

The incrusting zoarium, × 20, showing zooecial structure.

Midwayan (Clayton limestone): Brundidge, Alabama.

Cat. No. 63787, U.S.N.M.

FIG. 2. *Conopeum ornatum*, new species (p. 87).

Surface of the bilamellar type-specimen, × 20. The ornamentation of the surface and the irregular interopesial cavities are evident.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.

Cat. No. 63788, U.S.N.M.

FIGS. 3–8. *Conopeum damicornis*, new species (p. 87).

3. Three examples of the free, narrow, bilamellar, bifurcating zoarium, natural size.
4. Zoarial surface, × 20, showing the distinct, irregular zooecia and the very irregular interopesial cavities.
5. Transversal thin section of a frond, × 20.
6. Tangential thin section, × 20, showing the opesial denticles.
7. Median thin section, × 20, obtained by rubbing away both sides of the fronds.
8. Longitudinal thin section, × 20, showing the structure of the bilamellar zoarium.

Midwayan (Clayton limestone): Owl creek, 2¾ miles northeast of Ripley, Mississippi.

Cat. No. 63789, U.S.N.M.

FIGS. 9, 10. *Membraniporina canalifera*, new species (p. 95).

9. Surface of the incrusting zoarium, × 20, distinctly exhibiting the canal of the mural rim.
10. Another portion of the same zoarium, × 20, with one calcified zooecium having a small linear orifice.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.

Cat. No. 63790, U.S.N.M.

FIGS. 11–13. *Membrendoecium transversum*, new species (p. 120).

11. The incrusting zoarium, × 20, exhibiting the triangular avicularia, transversely arranged.
12. Another zoarium, × 20, illustrating the aspect in the vicinity of the ancestrula where regenerated zooecia and calcified zooecia are developed.
13. A variation, × 20, with the opesium strongly denticulated.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.

Cat. No. 63791, U.S.N.M.

FIG. 14. *Callopora ? tuberosa*, new species (p. 155).

The free unilamellar type-specimen, × 20.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.

Cat. No. 63792, U.S.N.M.

FIG. 15. *Callopora dumerilii* Audouin, 1826 (p. 148).

An Eocene example of this widely distributed species, × 20.

Midwayan (Clayton limestone): Brundidge, Alabama.

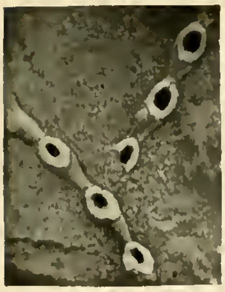
Cat. No. 63793, U.S.N.M.

FIG. 16. *Callopora sexspinosa*, new species (p. 147).

The incrusting type-specimen, × 20, with ovicells and the characteristic six spines well developed.

Midwayan (Clayton limestone): Brundidge, Alabama.

Cat. No. 63794, U.S.N.M.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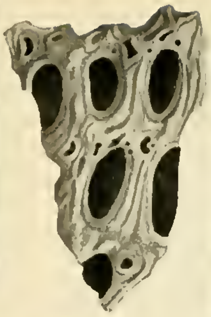
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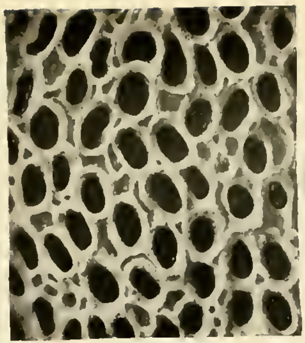
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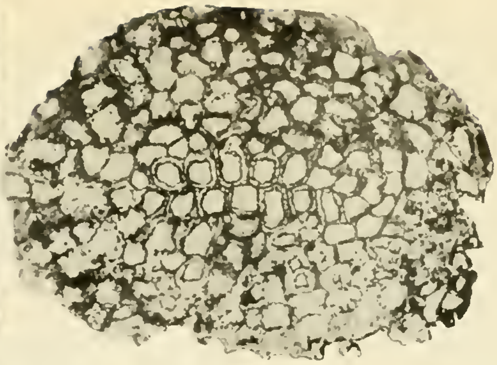
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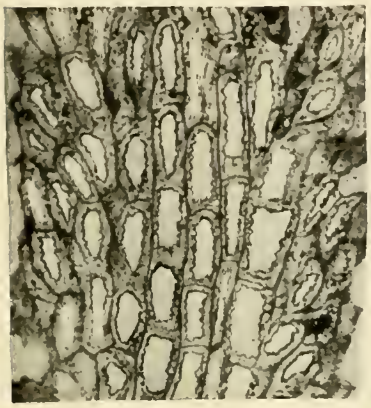
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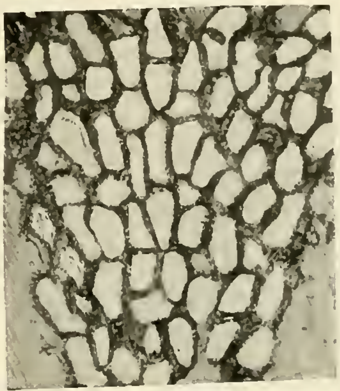
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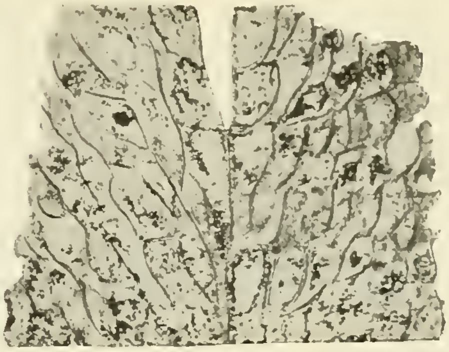
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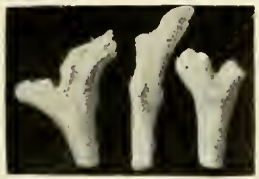
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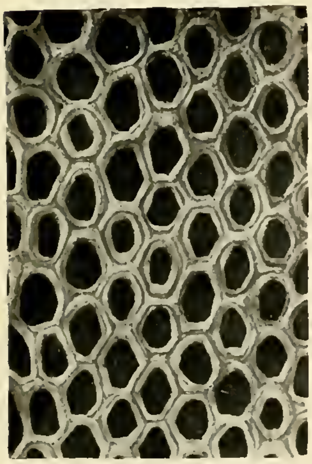
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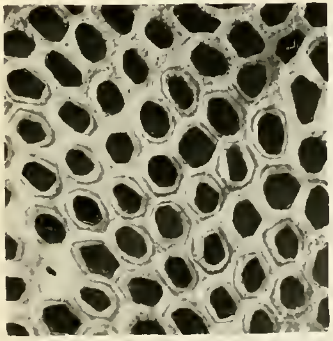
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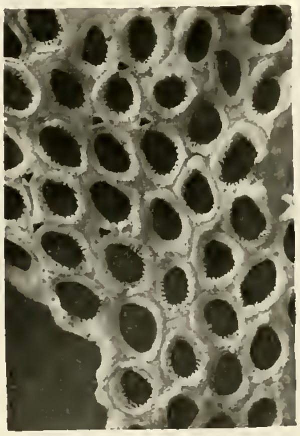
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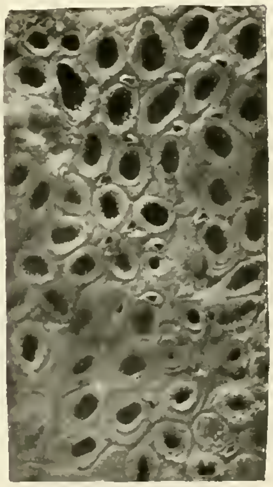
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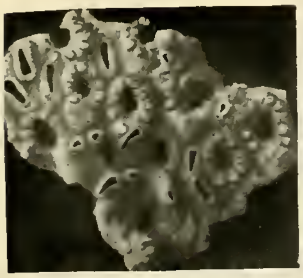
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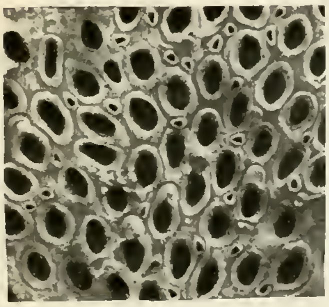
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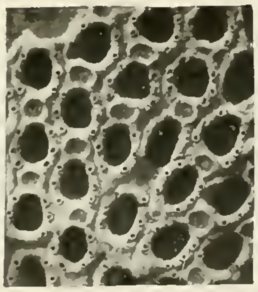
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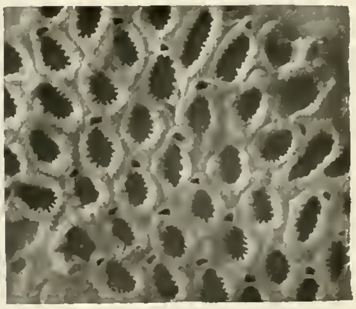
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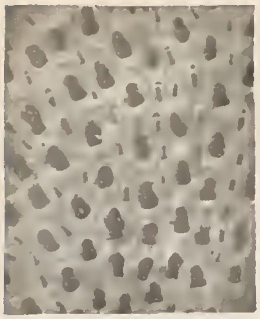
MIDWAYAN CHEILOSTOMATOUS BRYOZOA.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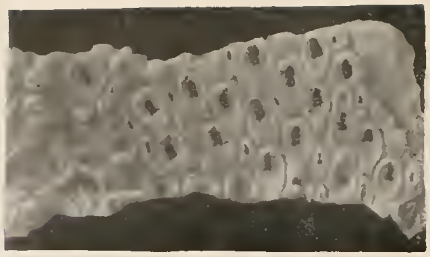
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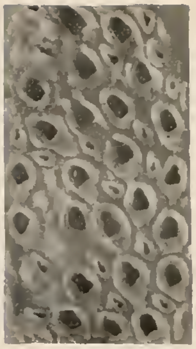
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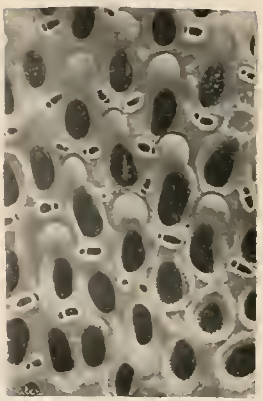
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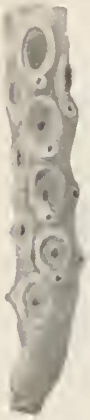
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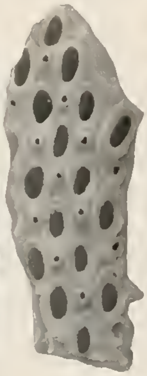
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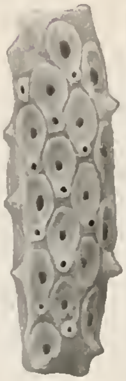
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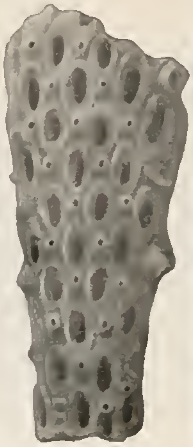
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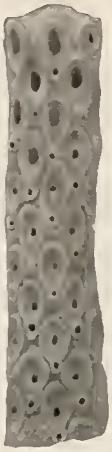
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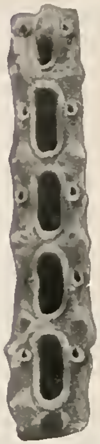
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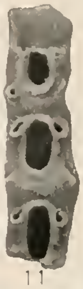
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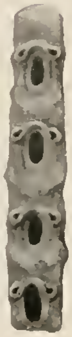
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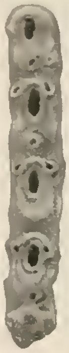
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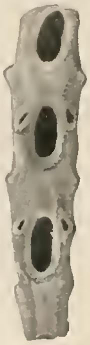
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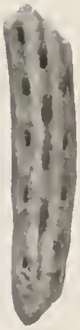
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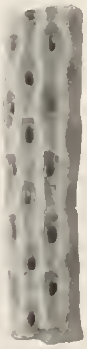
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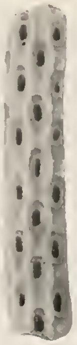
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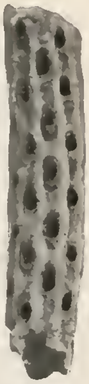
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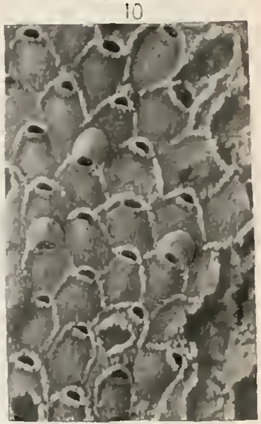
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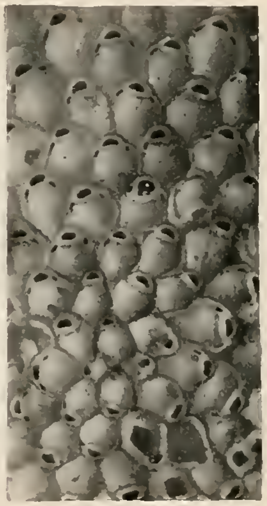
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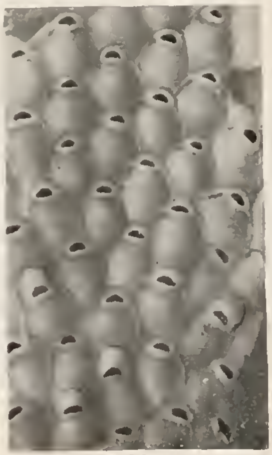
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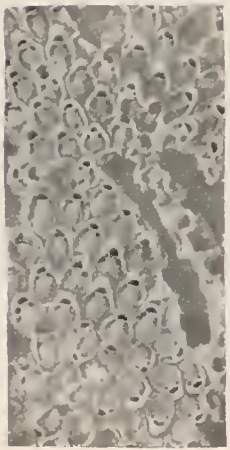
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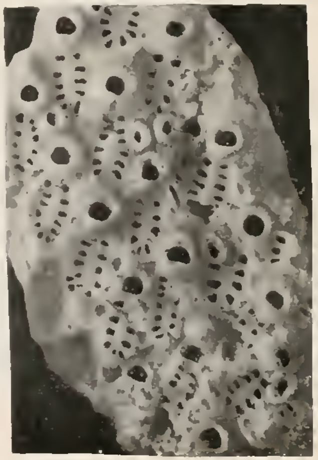
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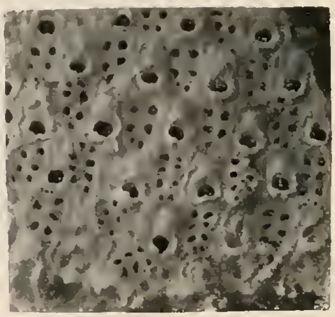
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MIDWAYAN CHEILOSTOMATOUS BRYOZOA.

PLATE 4.

FIG. 1. *Callopora stipata*, new species (p. 153).
Surface of the incrusting zoarium, × 20, illustrating especially the numerous large interzooecial avicularia.
Midwayan (Clayton limestone): Brundidge, Alabama.
Cat. No. 63795, U.S.N.M.

FIGS. 2, 3. *Amphiblestrum productum*, new species (p. 159).
2. The incrusting zoarium, × 20, showing length of zooecia.
Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63796, U.S.N.M.
3. A zoarium, × 20, exhibiting a slightly different aspect of the zooecia.
Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63797, U.S.N.M.

FIG. 4. *Ramphonotus sloani*, new species (p. 164).
Surface of the incrusting zoarium, × 20, with both ovicelled and nonovicelled zooecia.
Midwayan (Clayton limestone): Brundidge, Alabama.
Cat. No. 63798, U.S.N.M.

FIGS. 5–9. *Stamenocella midwayanica*, new species (p. 169).
5. The lower portion of the free, bilamellar, claviform zoarium, × 20, with radicular zooecia.
6. The upper, broader portion of the zoarium, × 20.
7. A fragment, × 20, with radicular zooecia and prominent avicularia.
8. A broad zoarium, × 20, exhibiting the normal appearance of the zooecia and avicularia.
9. An example, × 20, with strongly developed radicular zooecia.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63799, U.S.N.M.

FIGS. 10–15. *Nellia midwayanica*, new species (p. 197).
10–11. Three fragments of the articulated zoarium, × 20, showing two aspects of the broad zooecia.
12. An example, × 20, illustrating the narrow zooecia.
13. A fragment, × 20, with a radicular pore at the base of certain opesia.
14. End view of a segment, × 20, exhibiting its quadrangular form and the basal pore.
Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63800, U.S.N.M.
15. Another fragment, × 25.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63801, U.S.N.M.

FIGS. 16–19. *Smittipora midwayanica*, new species (p. 225).
16. A fragment, × 20, showing the base of the cylindrical segment.
17. Portion of a segment, × 20, illustrating the usual aspect of the zooecia.
18. An example, × 20. The zooecium in the center with small narrow opesium is probably an onychocellarium.
19. A fragment, × 20, with well developed mural rims.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63802, U.S.N.M.

FIGS. 20–22. *Micropora coriacea* Esper, 1791 (p. 235).
20. The incrusting zoarium, × 20, with three ovicelled zooecia. The opesiules are closed by fossilization.
Upper Jacksonian (Ocala limestone): 1½ miles above Bainbridge, Georgia.
Cat. No. 63803, U.S.N.M.
21. Portion of a zoarium, × 20, showing region about the ancestrula. The opesiules are quite visible.
22. The normal aspect of the zooecia, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63804, U.S.N.M.

FIG. 23. *Micropora minuticella*, new species (p. 237).
The incrusting type-specimen, × 20, exhibiting the extreme minuteness of the zooecia.
Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63805, U.S.N.M.

FIGS. 24, 25. *Membraniporella crassicollis*, new species (p. 286).
24. Fragment of the free, bilamellar zoarium, × 20. The thick peristome is a prominent feature.
25. An example, × 20, bearing ovicelled zooecia.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63806, U.S.N.M.

Plate 5.

Figs. 1–7. *Euritina tecta*, new species (p. 258).

1. Surface of the free bilamellar zoarium, × 20. The normal zooecia with lateral grooves are seen in the upper third of the photograph, but the zooecia of the supplementary layer in the lower two-thirds, appear quite different.

2. Portion of a zoarium, × 20, with two ovicelled zooecia and several avicularia. The avicularia of the primoserial zooecia are rounded and have a marked distal convexity.

3. Tangeatial thin section, × 20, showing olocystal elements of cryptocyst and mural rim.

4. Tangential thin section, × 100, illustrating olocystal structure of the bottom of the zooecium.

5. Interior of the zooecial frontal, × 20, showing the structure of the avicularium and the thickening of the lower opesial border.

6, 7. Two interiors, × 20, illustrating the similarity of shape of both primoserial and ordinary zooecia and the absence of any trace of the grooves of the cryptocyst.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63807, U.S.N.M.

Figs. 8–10. *Membraniporella planula*, new species (p. 286).

8. Zooecia of the free bilamellar zoarium, × 20, exhibiting the flat costules and the wide intervening slits.

9. Another zoarium, × 20, with slightly larger zooecia. The deep furrow separating the zooecia is quite evident.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63808, U.S.N.M.

10. Interior of the zooecia, × 20.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63809, U.S.N.M.

Fig. 11. *Cribrilina laticostulata*, new species (p. 292).

Portion of the incrusting zoarium, × 20.

Midwayan (Clayton limestone): Brundidge, Alabama.
Cat. No. 63810, U.S.N.M.

Figs. 12–14. *Cribrilina verrucosa*, new species (p. 291).

12. Surface of the incrusting zoarium, × 20, with the lacunae little visible.

13. Another zoarium, × 20, in which the lacunae are well developed.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63811, U.S.N.M.

14. A zoarium, × 20, with the lumen line shown.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63812, U.S.N.M.

Figs. 15–17. *Cribrilina rathbunae*, new species (p. 293).

15, 16. Portion of two zoaria, × 20. The differences in the lacunae are due to fossilization.

17. A zoarium, × 20, with several zooecia preserving the costules quite clearly.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63813, U.S.N.M.

Figs. 18–20. *Gephyrotes saillans*, new species (p. 301).

18, 19. Two fragments of the creeping zoarium, × 20. The prominent peristome and the large avicularia are characteristic.

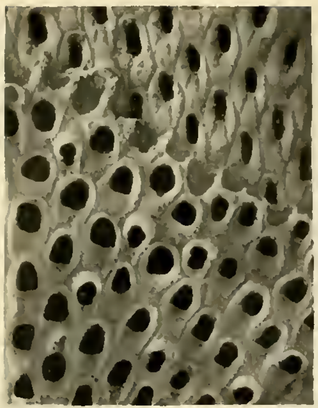
20. A specimen, × 20, with the spiramen developed on most of the zooecia.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63814, U.S.N.M.

Fig. 21. *Puellina*, species undetermined (p. 295).

Surface of the only zoarium noted, × 20.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63815, U.S.N.M.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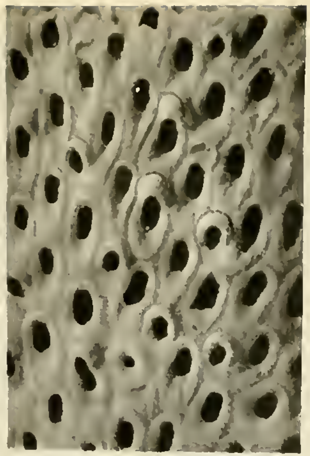
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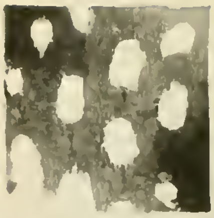
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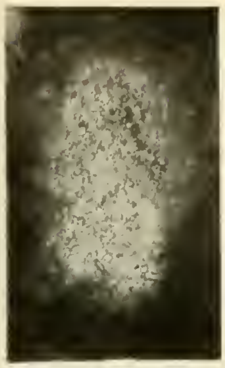
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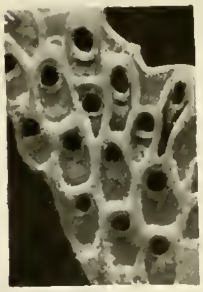
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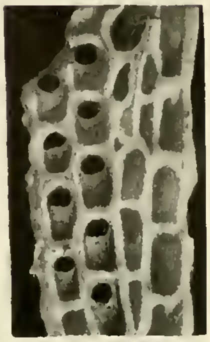
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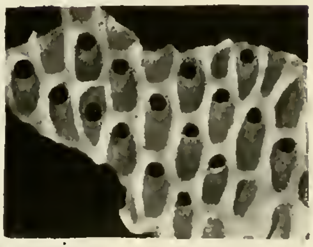
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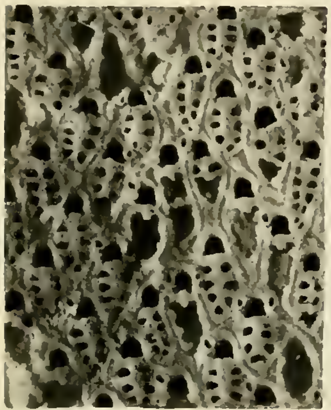
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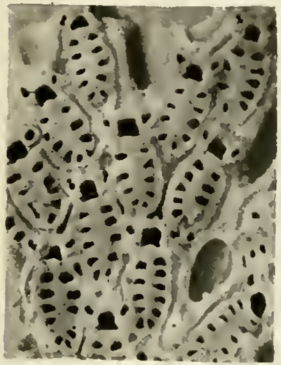
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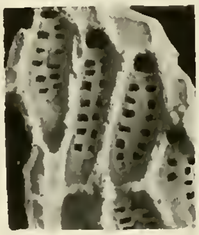
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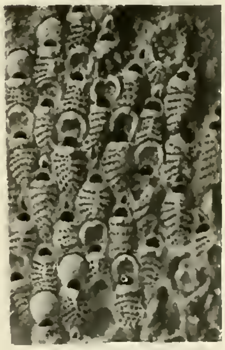
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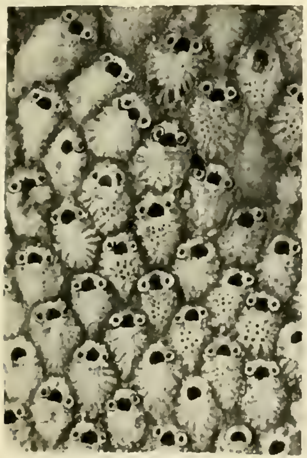
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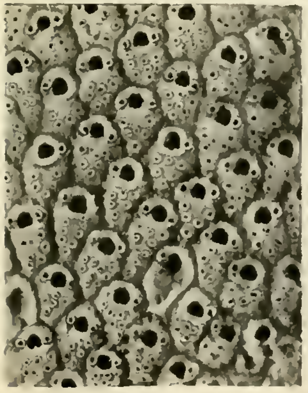
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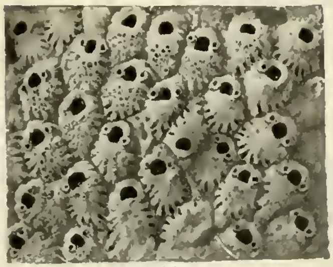
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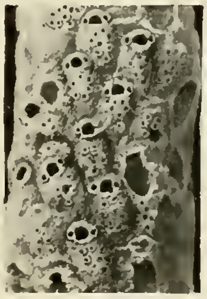
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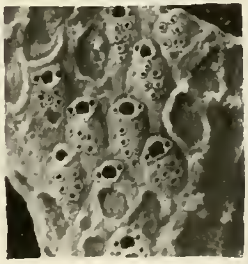
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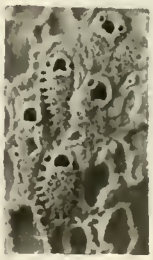
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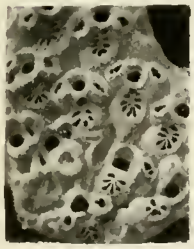
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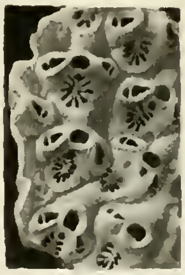
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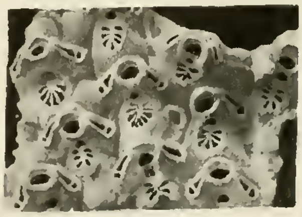
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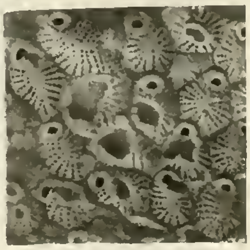
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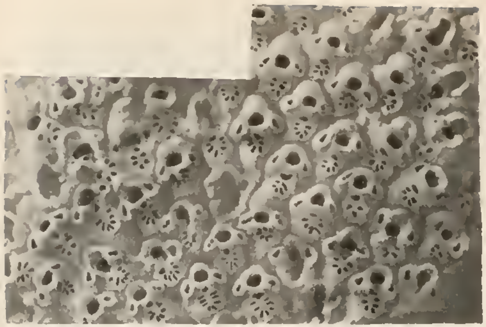
Miowayan Cheilostomatous Bryozoa.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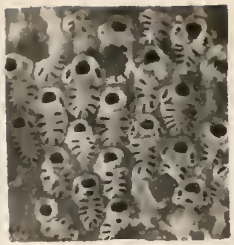
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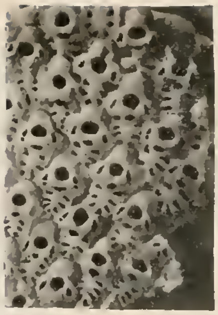
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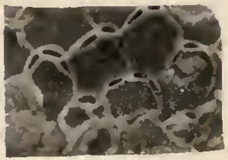
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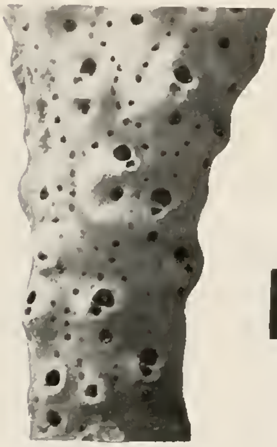
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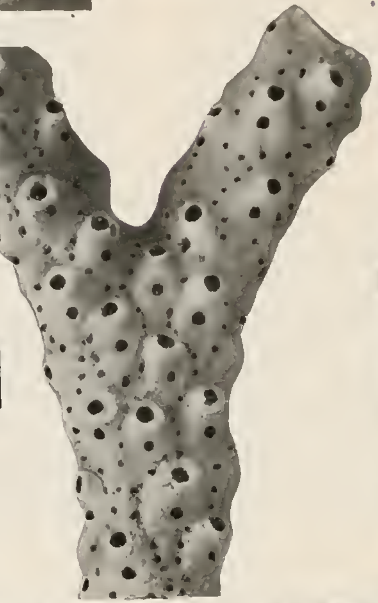
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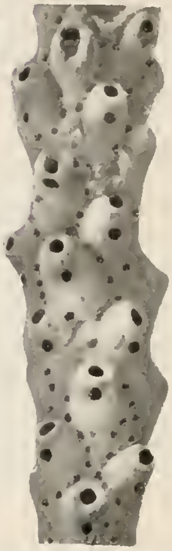
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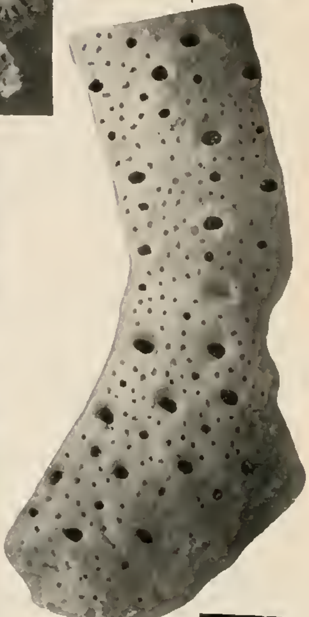
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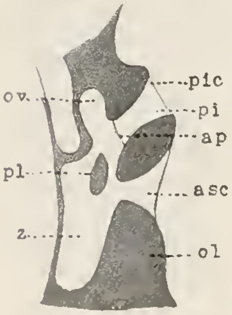
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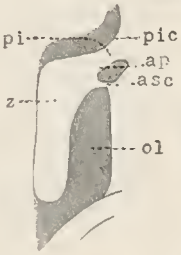
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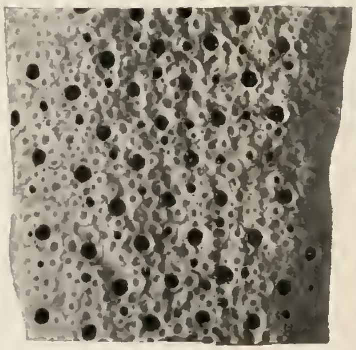
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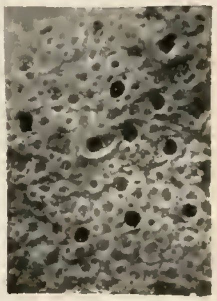
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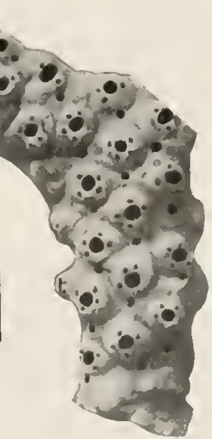
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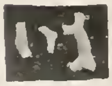
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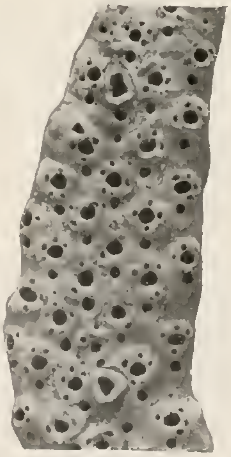
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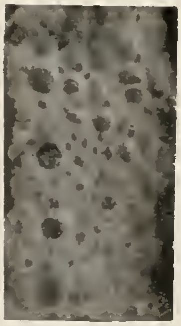
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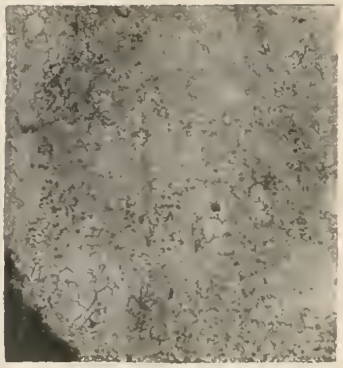
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Midwayan Cheilostomatous Bryozoa.

PLATE 6.

FIGS. 1–4. *Gephyrotes levigatum*, new species (p. 301).

1. The incrusting zoarium, × 20, presenting the usual aspect of the species.
2. Another zoarium, × 20, in which the gymnocyst is quite small.
3. A third specimen, × 20, with the gymnocyst wanting. The spiramen is well shown on this example.
4. The abraded surface of several zooecia, × 20, showing the pair of lateral dietellae and the single distal one.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63816, U.S.N.M.

FIGS. 5–6. *Acropora trita*, new species (p. 318).

5. Two fragments, natural size, of the free, cylindrical zoarium.
6. Surface, × 20, showing the indistinct zooecia, the ascopore and the tubules of the tremocyst forming the frontal.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63817, U.S.N.M.

FIGS. 7–12. *Gastropella ventricosa* Canu and Bassler, 1917 (p. 320).

7. A group of fragments of the free cylindrical zoarium, natural size.
8. A fragment, × 20, showing a small peristomial avicularium.
9. A bifurcated zoarium, × 20.
10. An example, × 20, in which the large swollen zooecia, large ascopore and the lateral areolae are well shown.
11, 12. Longitudinal section through a zooecium without ovicell, × 32, (fig. 12) and through one with ovicell (fig. 11).

ap, apertura; *asc*, ascopore; *ol*, olocyst; *or*, ovicell; *pi*, peristome; *pl*, support; *pie*, peristomice; *z*, zooecium.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 62589, U.S.N.M.

FIGS. 13–15. *Pachythecа stipata*, new species (p. 322).

13. Three fragments of the free cylindrical zoarium, natural size.
14. A bifurcated fragment, × 20, showing the prominent peristome with avicularia, the smooth frontal and the deeply imbedded ascopore.
15. A broader zoarium, × 20, exhibiting several large triangular avicularian zooecia.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63819, U.S.N.M.

FIGS. 16–20. *Beisselina forata*, new species (p. 322).

16. Two examples of the free, bifoliate zoarium, natural size.
17. Surface, × 20, illustrating the aspect of the large frontal pores and the ascopore.
18. Another surface, × 20, with two avicularian zooecia.
19. Interior of the zooecia, × 20.
20. Tangential thin section, × 100, passing through the olocyst and showing quincunx arrangement of the elements.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63820, U.S.N.M.

PLATE 7.

FIGS. 1–13. *Beisselina midwayanica*, new species (p. 324).

1. Two fragments of the narrow bifoliate zoarium, natural size.
2. Surface of an example, × 20, with abundant frontal pores.
3. Another specimen, × 20, with the frontal pores absent and with several zooecia exhibiting the ovicell cavities.
4. A fragment, × 20, with frontal pores rarely developed. The ascopore is plainly visible.
5. View of the interior of the zooecia, × 20. The zooecia and the large tubules are visible.
6. Surface of a fragment, × 20, with a single avicularian zooecium.
7. Transversal section, × 20, showing the thin lateral walls intimately joined.
8. Tangential thin section, × 20.
9. Transversal thin section, × 20, illustrating the two lamellae with dense, crowded olocystal elements arranged transversally.
10. A bifurcated zoarium, × 20, exhibiting several avicularian zooecia.
11. Tangential thin section, × 100, cutting the basal olocyst and showing the dense structure.
12. Schematic drawing of the longitudinal section, × 20. *ap*, apertura; *asc*, ascopore; *av*, avicularia; *ol*, olocyst; *pi*, peristome; *pie*, peristomice; *z*, zooecium.
13. A zoarium, × 20, with several avicularian zooecia.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63821, U.S.N.M.

FIG. 14. *Beisselina labiata* Gabb and Horn, 1862.

An example of this species, × 20, introduced for comparison. The large salient avicularia are characteristic.

Upper Cretaceous (Vincentown): Vincentown, New Jersey.
Cat. No. 63822, U.S.N.M.

FIGS. 15, 16. *Hippothoa ? conjuncta*, new species (p. 327).

15. The incrusting zoarium, × 20, having zooecia with long caudal portions.
16. Another zoarium, × 20, in which the caudal portions are much shorter.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 63823, U.S.N.M.

FIGS. 17–19. *Hippoporina midwayanica*, new species (p. 375).

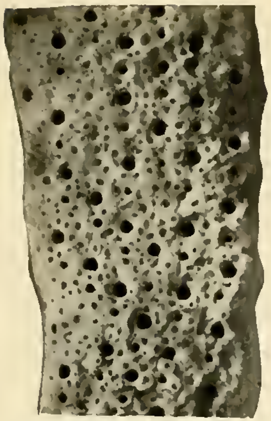
17. Small colony, × 20, showing absence of dorsal dietellae and olocyst on some zooecia.
18. A normal example of the incrusting zoarium, × 20. The shape of the aperture, the spines and the avicularian zooecia are well shown.
19. A young zoarium, × 20, with several ovicelled zooecia.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63824, U.S.N.M.

FIG. 20. *Anarthropora verrucosa*, new species (p. 430).

The type-specimen of this incrusting species, × 20.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63825, U.S.N.M.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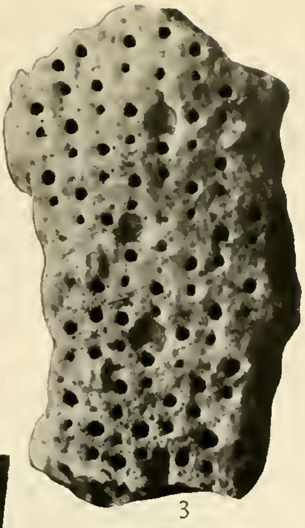
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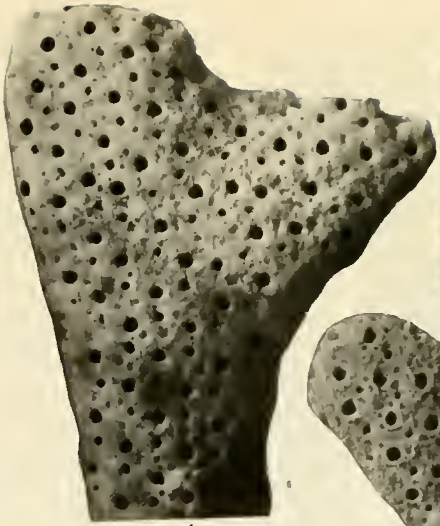
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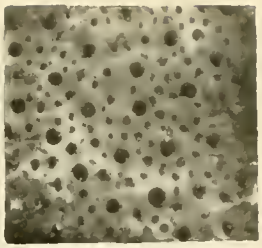
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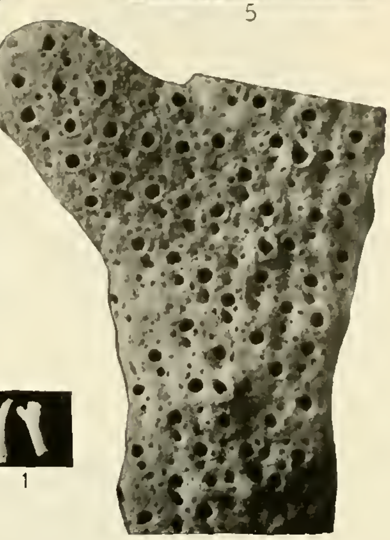
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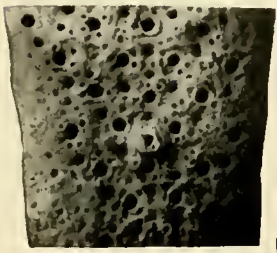
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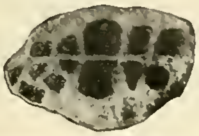
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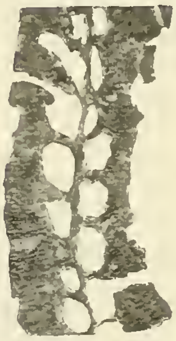
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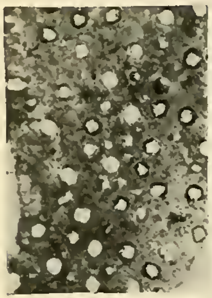
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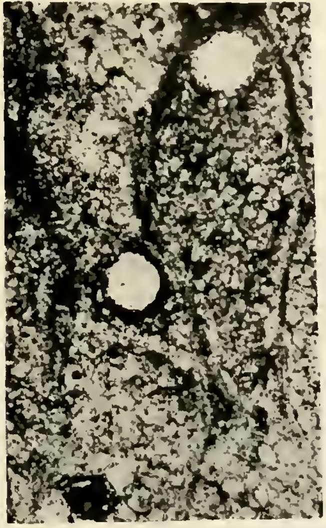
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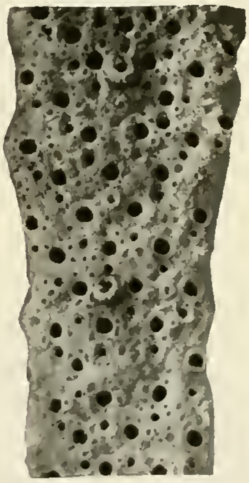
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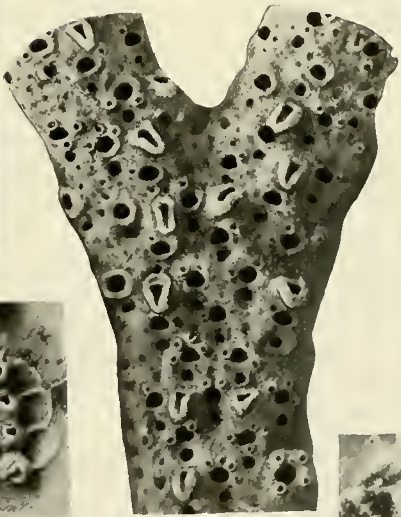
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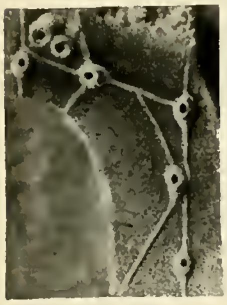
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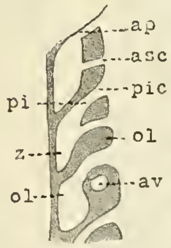
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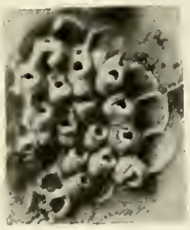
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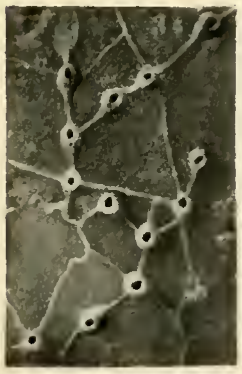
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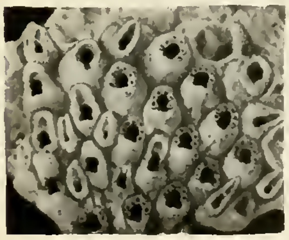
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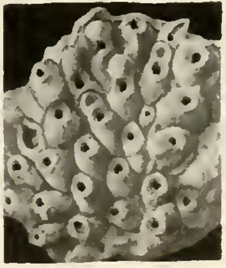
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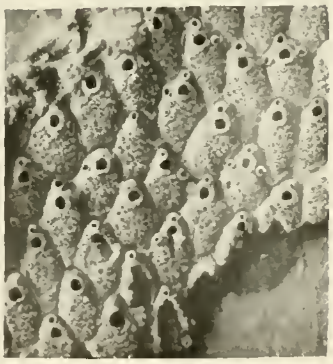
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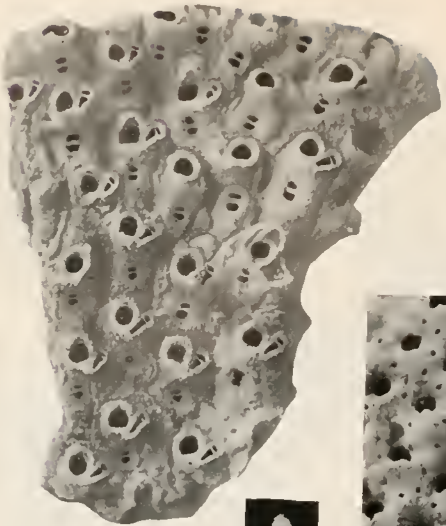
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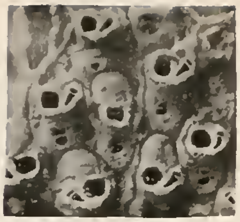
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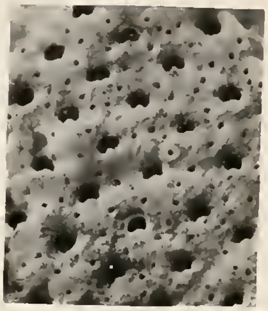
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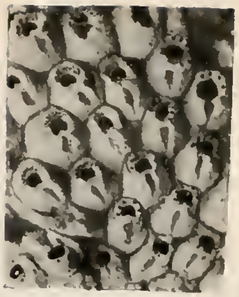
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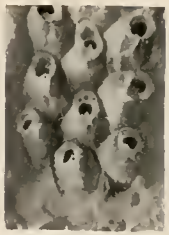
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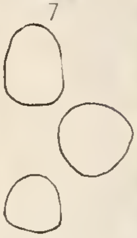
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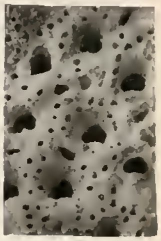
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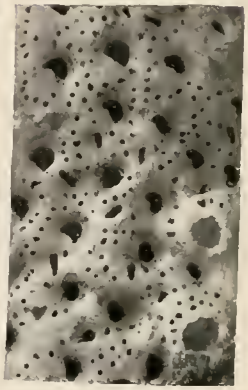
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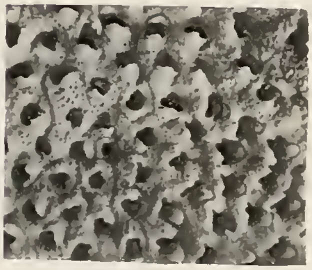
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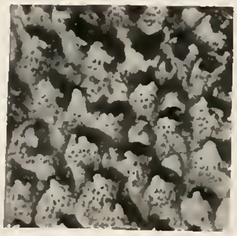
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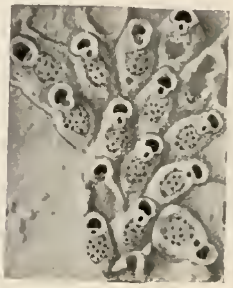
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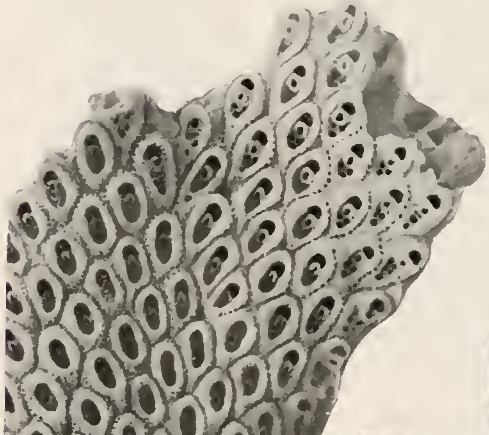
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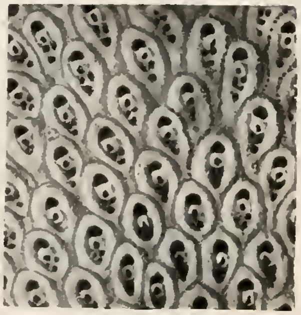
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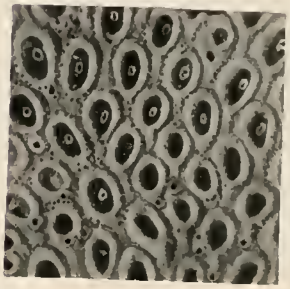
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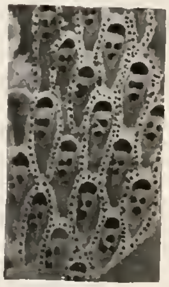
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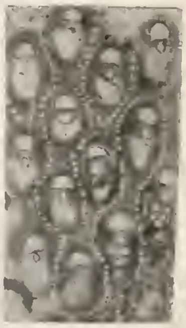
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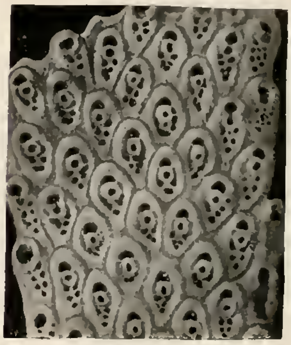
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MIDWAYAN AND WILCOXIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 8.

FIGS. 1, 2. *Galeopsis ? convexus*, new species (p. 511).

1. Fragment of the bifoliate zoarium, × 20, illustrating the occurrence of the ascopore and avicularia.
2. Another specimen, × 20, with ovicelled zooecia.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63826, U.S.N.M.

FIGS. 3, 4. *Bathosella undata*, new species (p. 406).

3. Fragment of the free bilamellar zoarium, natural size.
4. Surface of the type, × 20. The deeply embedded ovicell (broken) is visible on several zooecia.

Midwayan (Clayton limestone): 1 mile west of Fort Gaines, Georgia.
Cat. No. 63827, U.S.N.M.

FIGS. 5, 6. *Cystisella midwayanica* Canu and Bassler, 1917 (p. 479).

5. The incrusting zoarium, × 20. The zooecial spines and the frontal avicularian chambers (broken) are visible.
6. A small cluster of zooecia, × 20, some of which preserve the avicularia unbroken.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 62606, U.S.N.M.

FIGS. 7–10. *Bathosella cingerans*, new species (p. 405).

7. The hollow cylindrical zoarium, natural size.
8. Sketches of the aperture, × 72, showing variations in shape.
9. Another view of the type-specimen, × 20, showing the zooecia at the base of a funnel like structure.
10. Surface, × 20, illustrating the avicularia, areolae, and the large abnormal zooecia.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 63828, U.S.N.M.

FIGS. 11, 12. *Rhamphostomella simplex*, new species (p. 477).

11. The incrusting zoarium, × 20, showing region around ancestrula.
12. Another zoarium, × 20, with ovicells developed on some of the zooecia. The salient avicularium and the granulose pleurocyst are visible.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63829, U.S.N.M.

FIG. 13. *Adeonellopsis porosa*, new species (p. 565).

Photograph of the incrusting type-specimen, × 20, with the large frontal pierced by a dozen pores.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63818, U.S.N.M.

FIGS. 14–20. *Adeonellopsis magniporosa*, new species (p. 565).

14. The bilamellar zoarium, natural size.
15. Zoarium, × 20, showing old zooecia. The apertura and pointed, triangular avicularium only are visible in the total area of such zooecia.
16. Another surface, × 20, with zooecia exhibiting the deep cribriform area.
17. Old zooecia, × 20, with adventitious round avicularium below the total area.
18. Interior of the zooecia, × 20.
19. Tangential thin section, × 25, passing through the zooecial frontal.
20. Surface of a frond, × 20, with deep cribriform area containing five to seven pores.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63830, U.S.N.M.

PLATE 9.

FIGS. 1–7. *Conopeum wilcoxianicum*, new species (p. 88).

1. Natural size view of a bushy bilamellate zoarium.
2. Surface of a zoarium with young zooecia, × 20. Several regenerated zooecia with a thin double mural rim are visible.
3. Portion of a zoarium with narrow zooecia, × 20.
4. Another zoarium, × 20, with broad zooecia, distinct interopesial cavities and two distal impressions shown in some of the opesia.
5. An example, × 20, in which the mural rims are granulated. Regenerated zooecia are also developed.
6. View, × 20, showing ancestrular region.
7. Surface of a bilamellar zoarium, × 20. The distal impressions are shown in several opesia.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63831, U.S.N.M.

FIGS. 8, 9. *Conopeum similior*, new species (p. 88).

8. The incrusting zoarium, × 20. Calcified zooecia with a linear orifice and a semilunar distal furrow are shown.
9. Another zoarium, × 20, exhibiting the furrow separating the zooecia and the finely crenulated opesium.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63832, U.S.N.M.

FIG. 10. *Alderina nodulosa*, new species (p. 143).

Surface of the free unilamellar zoarium, × 20. The two nodular projections and the arrangement of the septulae are quite visible.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63833, U.S.N.M.

FIGS. 11–12. *Lunularia ovata*, new species (p. 241).

11. Celluliferous side of a zoarium, × 20, exhibiting the rows of hydrostatic and of polypidian zooecia. Ovicells are developed on two of the zooecia.
12. Inner side of a zoarium, × 20, showing the many tuberosities of this surface.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63834, U.S.N.M.

FIGS. 13–16. *Aimulosia clavula*, new species (p. 429).

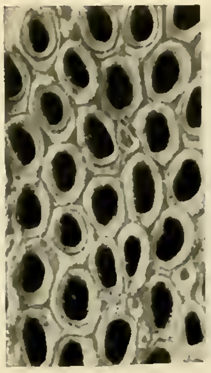
13. The incrusting zoarium, × 20, in which the areolae are larger than usual.
14. Zooecia, × 20, with the ovicell well developed and the frontal avicularium farther removed from the aperture.
15. Another example, × 20, with the pleurocyst developed.
16. An example, × 20, in which the ovicell is broader than the zooecium.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63835, U.S.N.M.

FIG. 17. *Tryposteg a elongata*, new species (p. 328).

The incrusting zoarium, × 20.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 63836, U.S.N.M.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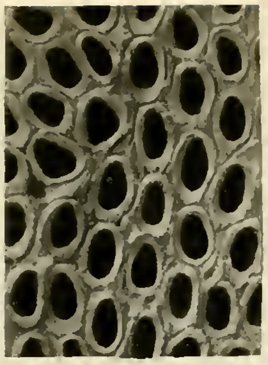
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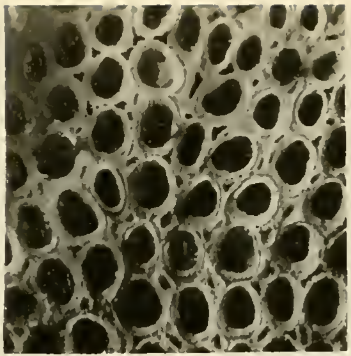
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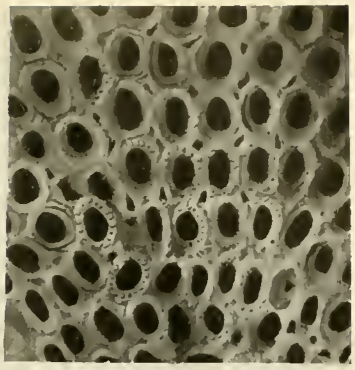
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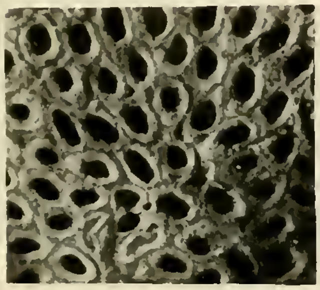
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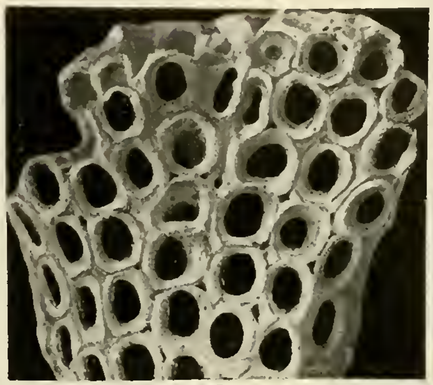
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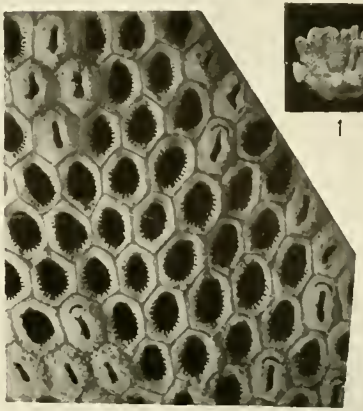
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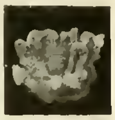
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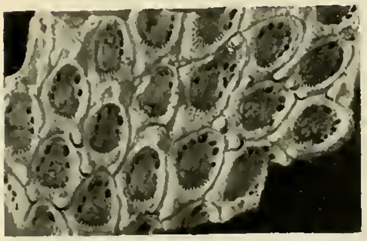
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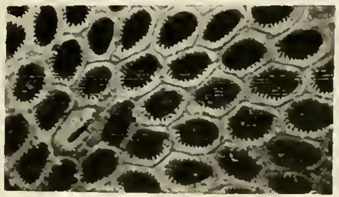
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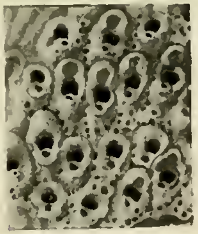
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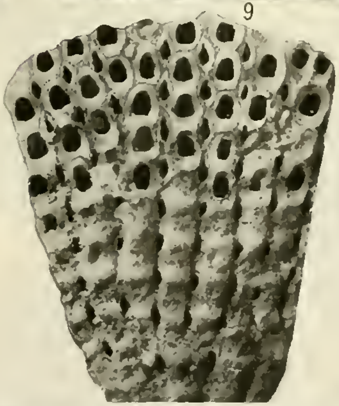
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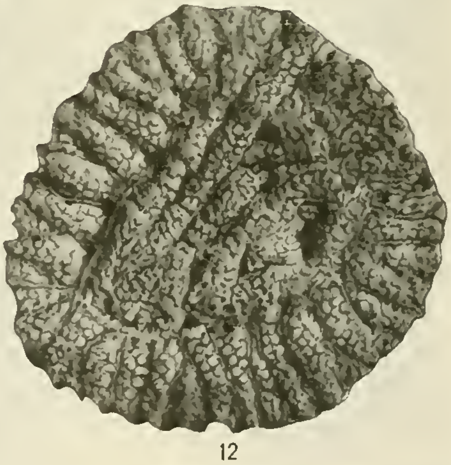
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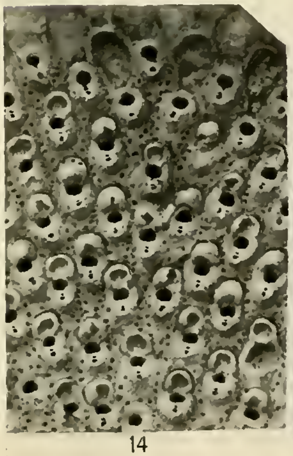
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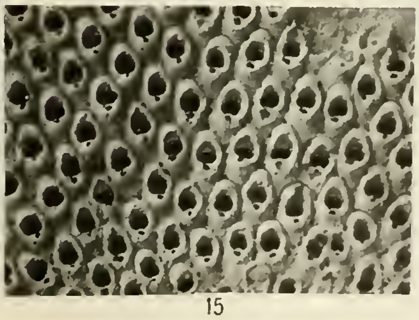
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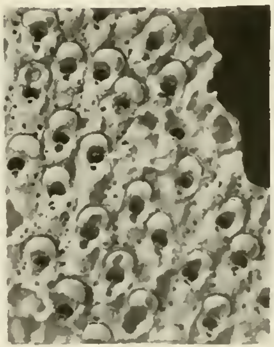
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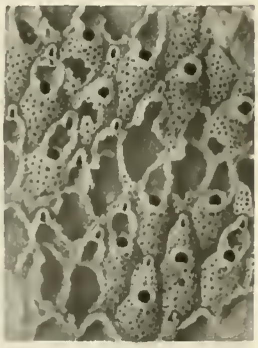
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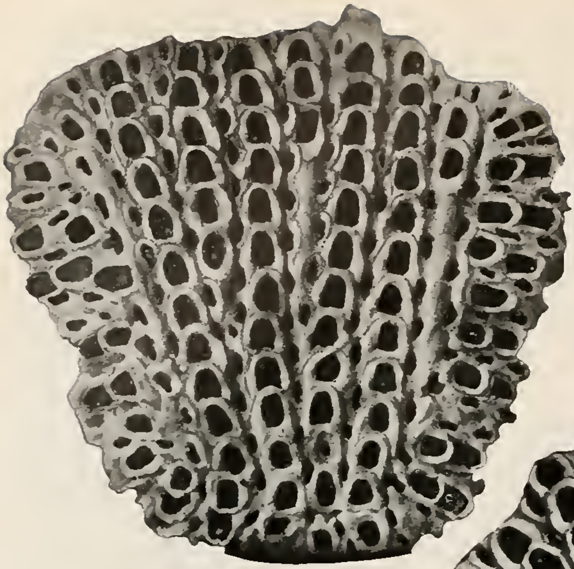
WILCOXIAN CHEILOSTOMATOUS BRYOZOA.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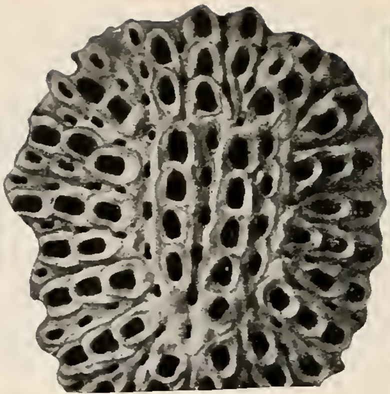
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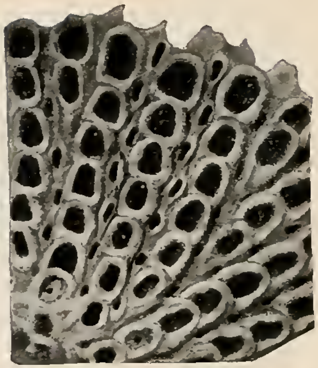
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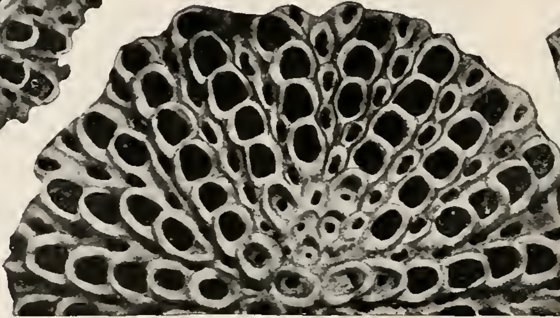
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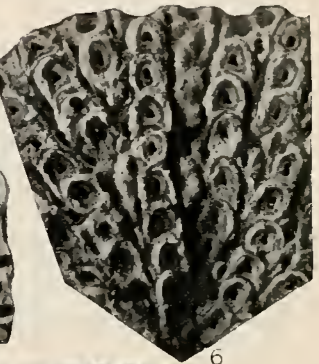
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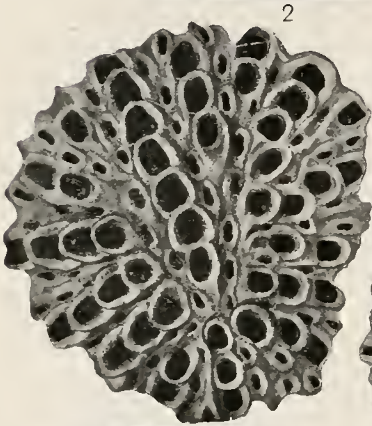
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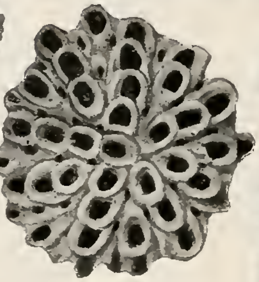
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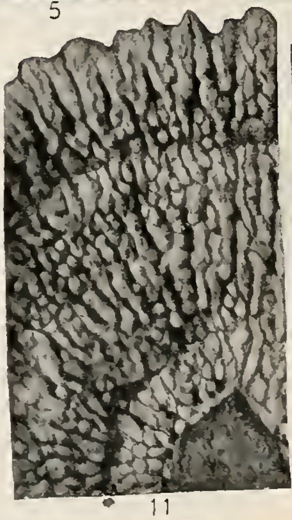
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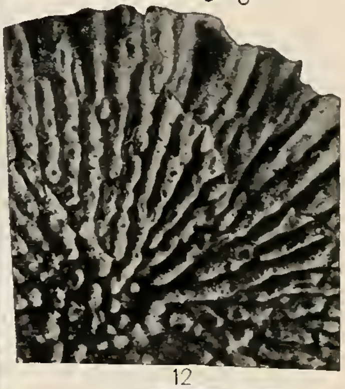
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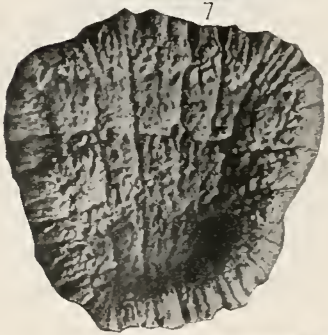
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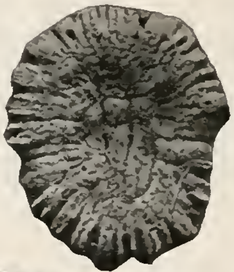
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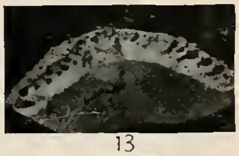
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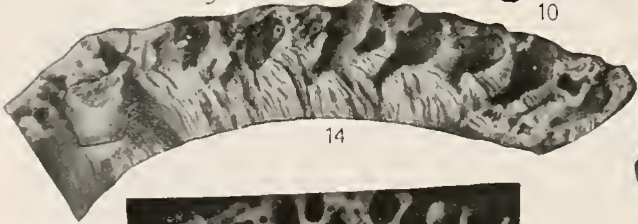
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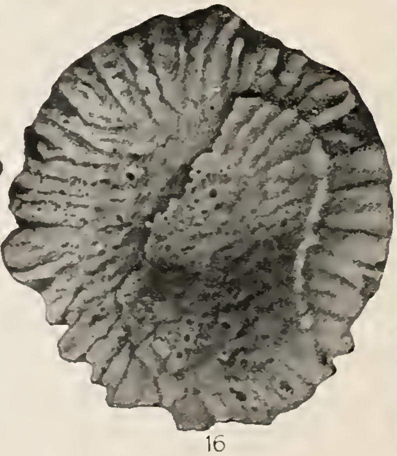
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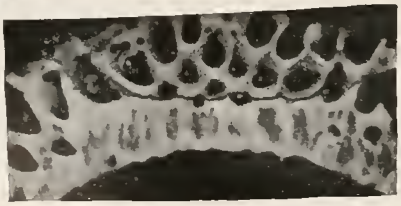
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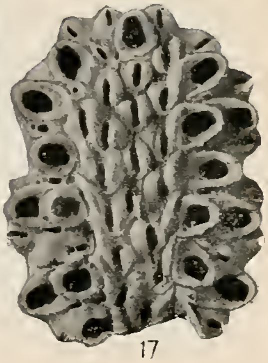
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CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 10.

FIGS. 1–17. *Trochopora bouei* Lea, 1833 (p. 103).

1. A group of zoaria, natural size.
2. A large flabelliform zoarium of normal zooecia, × 20 (forma *duclosi*).
3. A zoarium originally flabelliform, becoming discoidal by the proliferation of the lateral rows, × 20. The ancestrula engenders a flabelliform central portion.
4. Portion of a specimen, × 20, in which the radial arrangement of the zooecia is more developed.
5. Half of a zoarium, × 20. The ancestrula is immersed. Both radicular and normal zooecia are developed. The ancestrula gives rise to radicular zooecia (forma *almina*).
6. Portion of a zoarium, × 20, exhibiting radicular zooecia only.
7. A small zoarium, × 20, composed of normal zooecia.
8. A small discoidal example, × 20. The ancestrula is visible and gives rise to normal zooecia only.
9. The inner concave face of a flabelliform zoarium, × 10.
10. The inner face of a smaller specimen, × 10, still showing the flabelliform arrangement at the center.
11. Inner side, × 20, showing growth on a quartz fragment.
12. Portion of inner face of zoarium, × 20, showing the superposition of the disks.
13. Broken edge of a zoarium, × 5.
14. Portion of the same specimen, × 20, showing fibrous structure of zoarium and growth on a grain of sand.
15. Vertical fracture, × 20.
16. Inner face of a discoidal zoarium, × 20, illustrating the superposed zooecial disks.
17. A zoarium, × 20. The flabelliform portion is formed of vibracula.

Claibornian (Gosport sand): Claiborne, Alabama.

Cat. No. 63837, U.S.N.M.

PLATE 11.

FIGS. 1–6. *Trochopora truncata* DeGregorio, 1890 (p. 104).

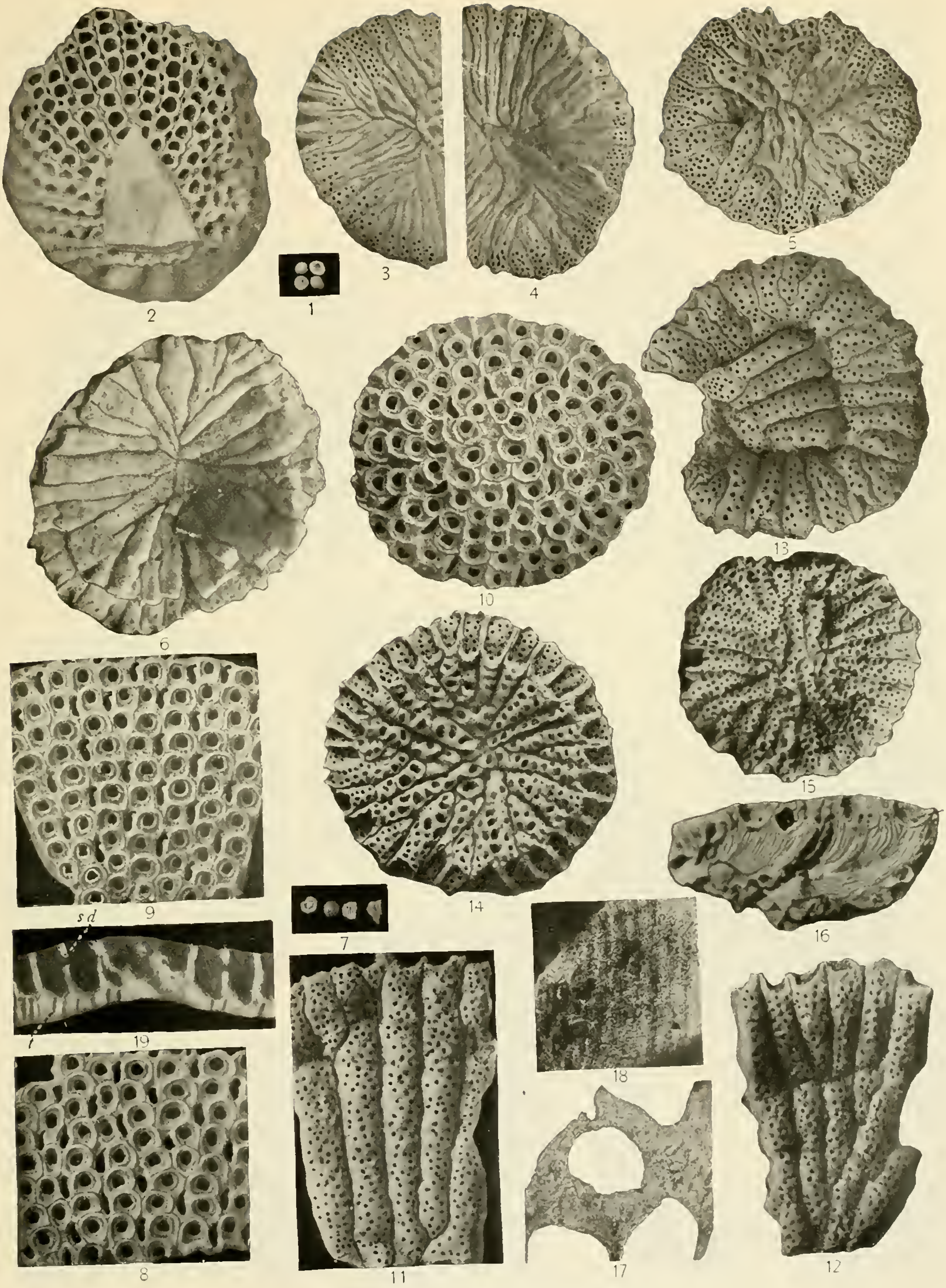
1. Four zoaria, natural size.
2. Convex celluliferous side of an example, × 20, showing growth on a quartz grain.
3, 4. Views of the inner side of two zoaria, × 20. The radial rows are flat and smooth at the center and porous toward the circumference.
5. A flat inner side of a zoarium, × 20, in which the pores are well developed.
6. Inner side, × 20, showing the disks of which the zoarium is composed.

Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63838, U.S.N.M.

FIGS. 7–19. *Otionella perforata* Canu and Bassler, 1917 (p. 106).

7. Two fragments and two complete zoaria, natural size.
8. Celluliferous surface, × 20, exhibiting the usual characters of the species.
9. Another zoarium, × 20, in which the auriculated vibraculum and the opesial collar are well developed.
10. An entire discoidal zoarium, × 20.
11. The inner face of a fragmentary flabelliform zoarium, × 20.
12. Another fragment, × 20, showing centers of origin of new lines.
13. An incomplete zoarium, × 20. The growth was flabelliform at first and then became discoidal.
14, 15. Inner face of two zoaria, × 20. The ribs are broken at their extremity and the pores of this face are well developed.
16. Edge of the lines of zooecia, × 20, with minutely furrowed surface.
17. Tangential thin section, × 100, illustrating the olocystal structure of the walls.
18. Thin section, × 20, showing the structure of the cryptocyst.
19. Transverse section, × 20, showing the tubules (*t*) and the zooecia communicating by a distal pore (*sd*).

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 62571, U.S.N.M.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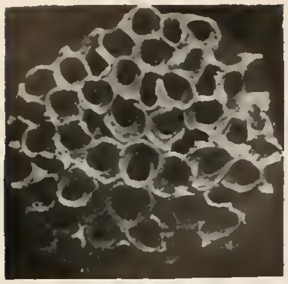
Claibornian Cheilostomatous Bryozoa.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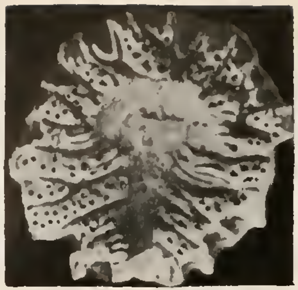
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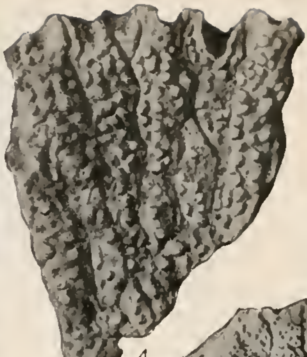
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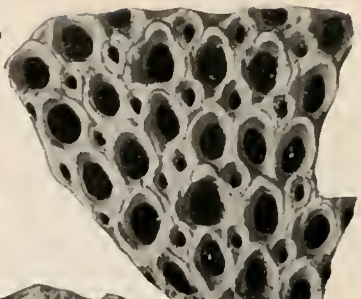
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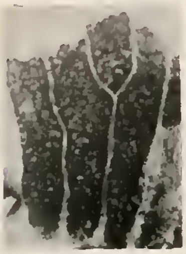
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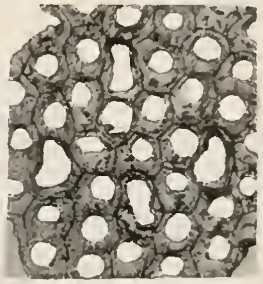
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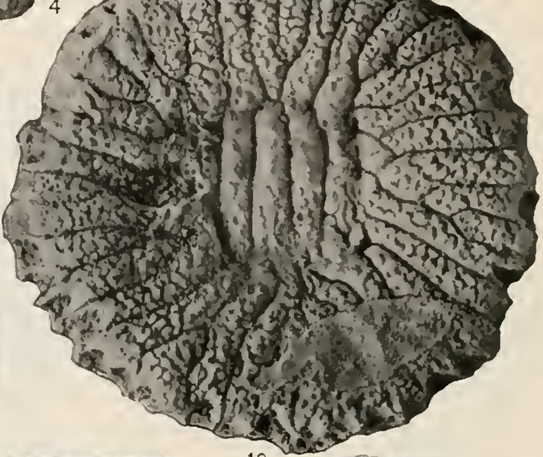
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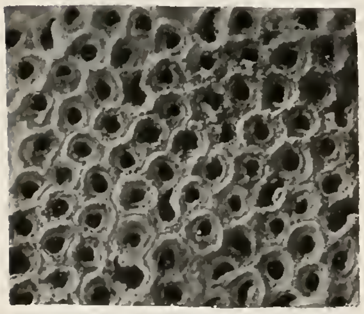
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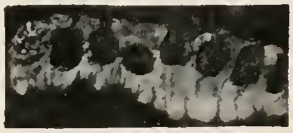
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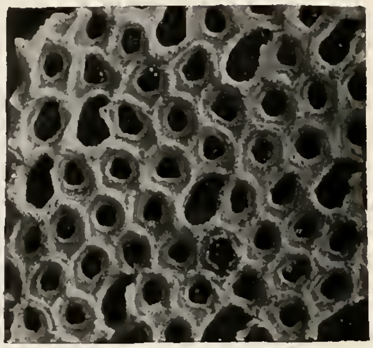
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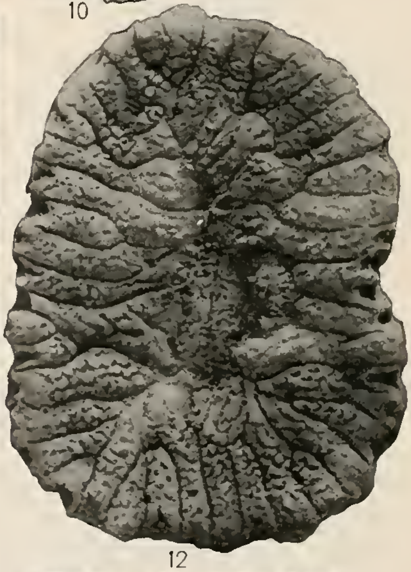
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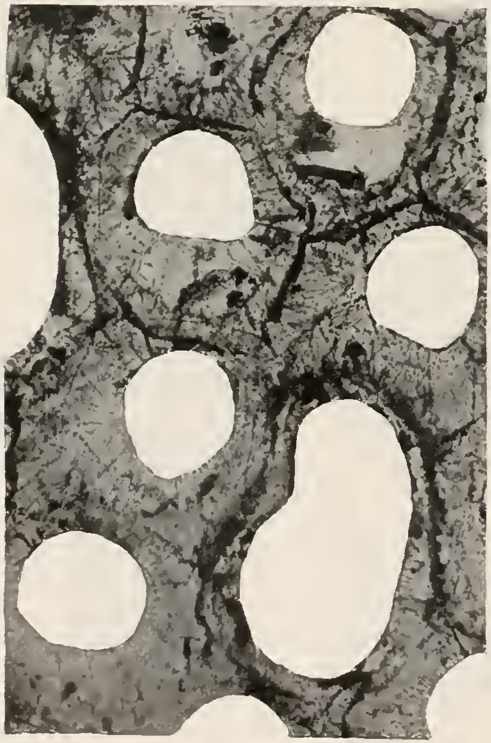
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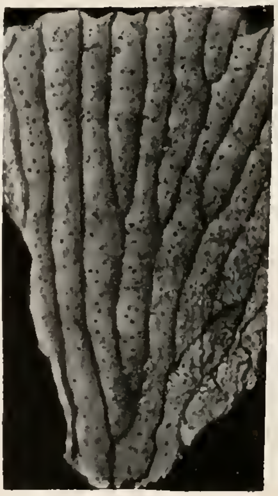
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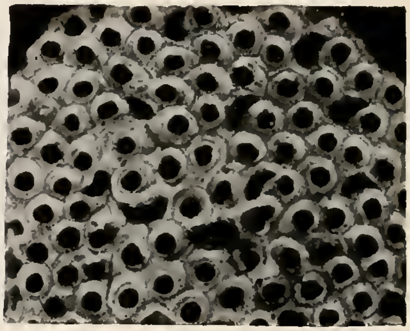
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CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 12.

FIGS. 1, 2. *Otionella mccallici*, new species (p. 106).

1. The discoidal zoarium, × 20. The ancestrula is seen below the center of the figure.
2. Inner side of the same, × 20, exhibiting the large pores of the radial lines of zooecia.

Lower Jacksonian: 3½ miles southeast of Shell Bluff post office, Georgia.

Cat. No. 63839, U.S.N.M.

FIGS. 3, 4. *Lunularia grandipora*, new species (p. 242).

3. The fragmentary type specimen, × 20. Some of the zooecia are provided with well-defined ovicells.
4. Inner side of the same example, × 20, illustrating the large tuberosities.

Claibornian (Lisbon formation): Wautubbee Hills, 4 miles south of Enterprise, Mississippi.

Cat. No. 63840, U.S.N.M.

FIGS. 5–15. *Otionella tuberosa*, new species (p. 107).

5. Three examples of the discoidal zoarium, natural size.
6. Tangential thin section through the inner side, × 25.
7. Tangential thin section through the celluliferous side, × 20.
8. Zooecia and avicularia of an average example, × 20.
9. Section of a zoarium between the zooecia, × 20. The inner side is thick and fibrous and narrow tubules may be noted between the tuberosities.
10. Inner side of a zoarium, × 20. The discoidal form results from special budding along lateral lines.
11. Surface, × 20, of an example with unusually large vibracula.
12. Inner side of a zoarium, × 20. Both tuberose and smooth conditions of the rows are shown.
13. Tangential thin section, × 100. The mural rim is seen to be composed of radially arranged olocystal elements.
14. Inner side of a fragment, × 20, showing small pores perforating the rows without tuberosities.
15. Portion of a zoarium, × 20, with large auriculated vibracula.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 63841, U.S.N.M.

PLATE 13.

FIGS. 1–8. *Membrendoecium rectum*, new species (p. 122).

1. The incrusting zoarium of this species, × 20, somewhat abraded and showing the five distal dietellae. The endozooecial ovicell (broken) is present on a number of zooecia.
2. A zoarium of normal zooecia only, × 20, two of which exhibit the small endozooecial ovicell distinctly.
3. Portion of a rather broad example, × 20, exhibiting the ancestrular region with closed zooecia and an outer area of normal zooecia. The closed zooecia often bear the imprint of the opercular valve.
4. A specimen, × 20, with broad, closed and normal zooecia.
5. Ancestrula and surrounding closed zooecia perforated by a pore, × 20.

Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 63842, U.S.N.M.

6. Elongate normal zooecia, × 20.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 63965, U.S.N.M.

7. A small zoarium, × 20, with a regenerated zooecium just below the ovicelled one.

Lower Jacksonian: 3½ miles southeast of Shell Bluff post office, Georgia.
Cat. No. 63843, U.S.N.M.

8. The usual Jacksonian form of the species, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63844, U.S.N.M.

FIG. 9. *Conopeum lacroixii* Busk, 1852 (p. 89).

The incrusting zoarium of this widely distributed species, × 20.
Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63845, U.S.N.M.

FIGS. 10–12. *Lunularia ligulata*, new species (p. 243).

10. Celluliferous surface of a zoarium, × 20, showing the tongue-like process of the hydrostatic zooecia.
11. View of another zoarium, × 20, illustrating the rectangular normal zooecia and the fusiform vibracula.
12. Inner side of a zoarium, × 20, showing the perforated convex radial ribs.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63846, U.S.N.M.

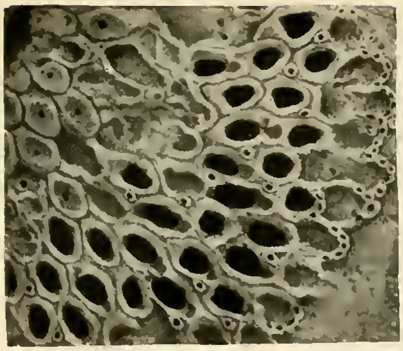
FIGS. 13–15. *Lunularia claibornica*, new species (p. 248).

13. Inner side of a fragmentary zoarium, × 20, showing convex rows pierced by pores.
14. A transverse fracture between the zooecia, × 20.
15. Celluliferous side of zoarium, × 20, exhibiting occurrence of normal zooecia only and arrangement of vibracula.

Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63847, U.S.N.M.

FIG. 16. *Membraniporina laxa* Reuss, 1869 (p. 96).

Portion of the incrusting zoarium, × 20, of the American Eocene specimen referred to this species. One zooecium exhibits total regeneration.
Claibornian (Gosport sand): 1 mile southwest of Rockville, Clarke County, Alabama.
Cat. No. 63848, U.S.N.M.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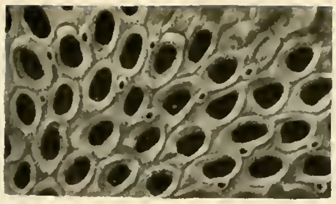
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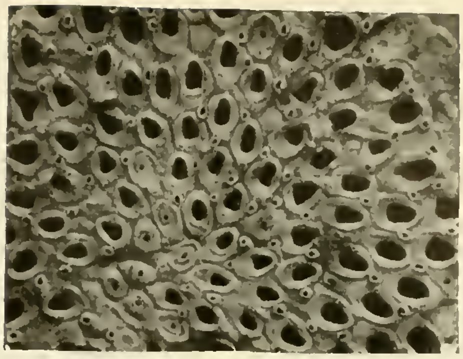
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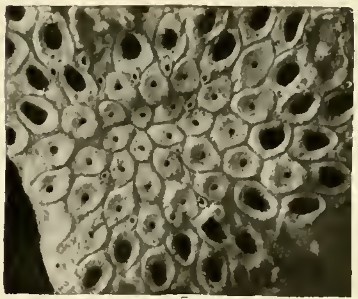
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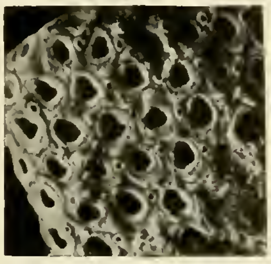
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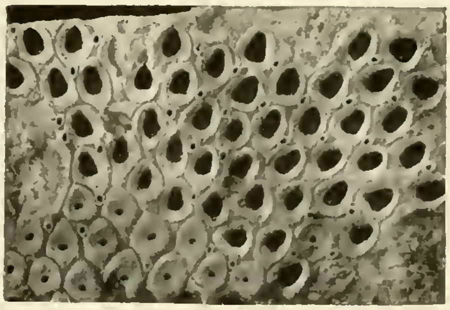
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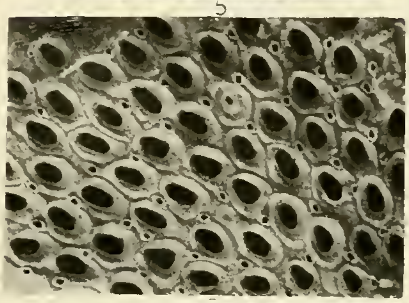
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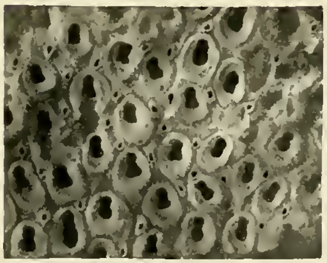
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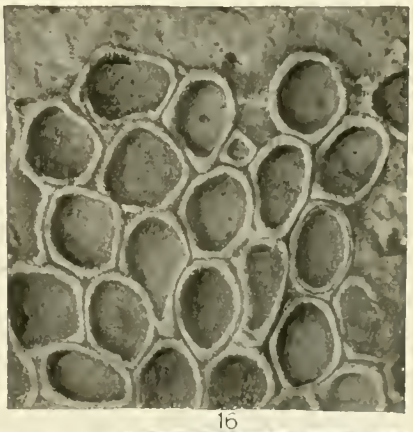
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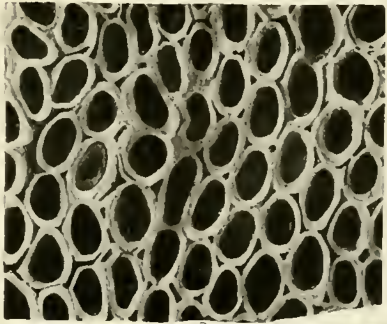
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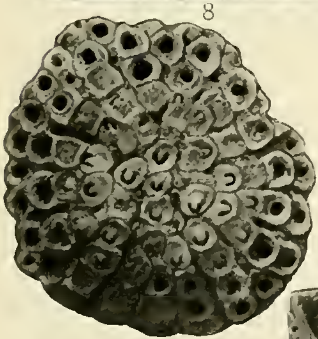
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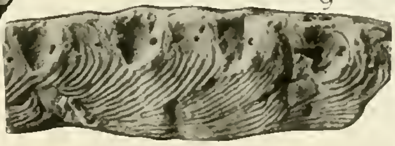
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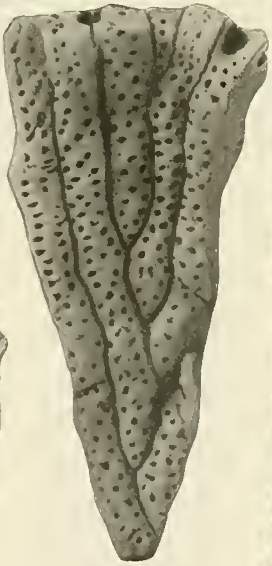
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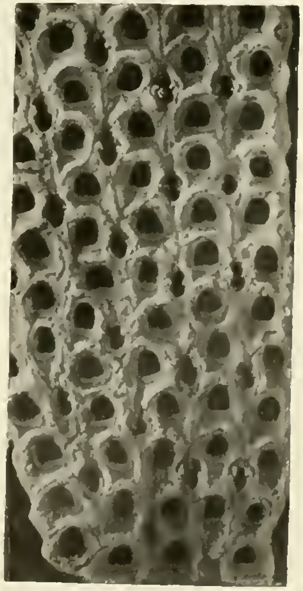
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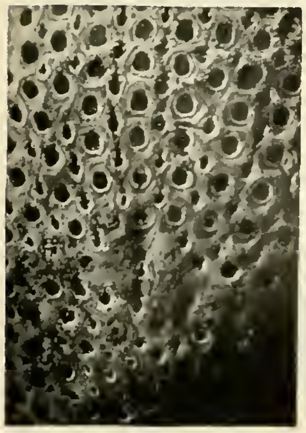
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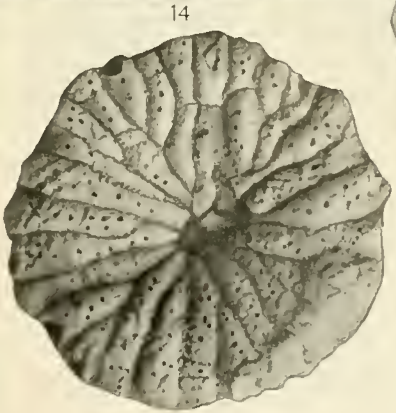
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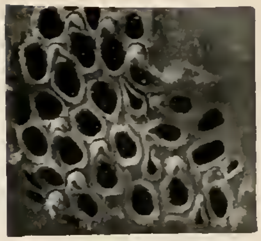
Claibornian Cheilostomatous Bryozoa.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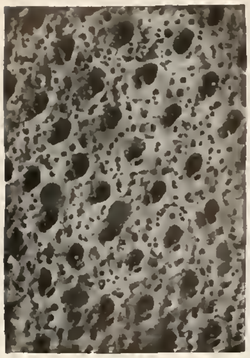
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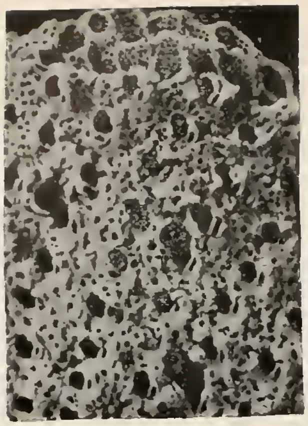
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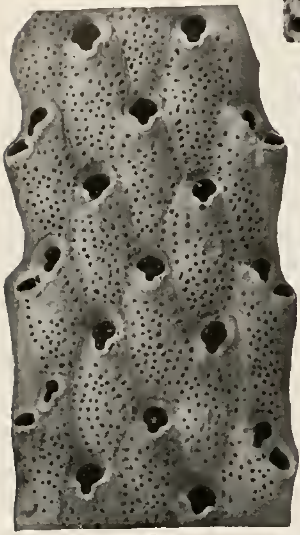
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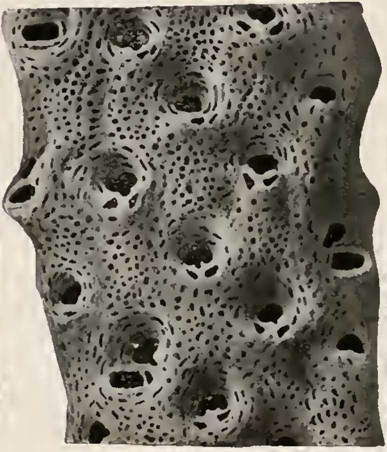
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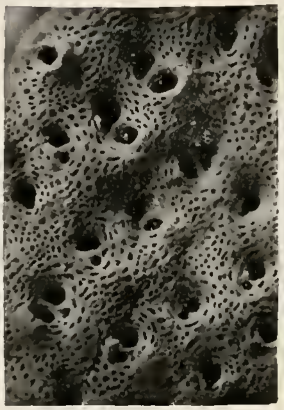
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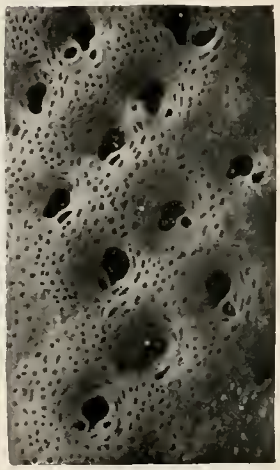
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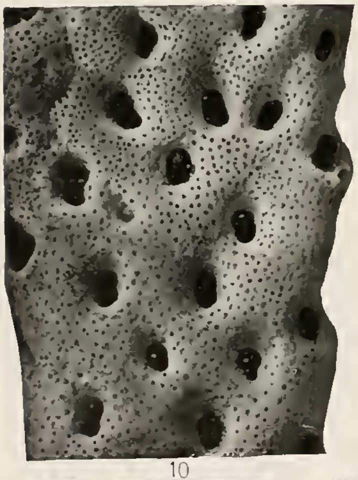
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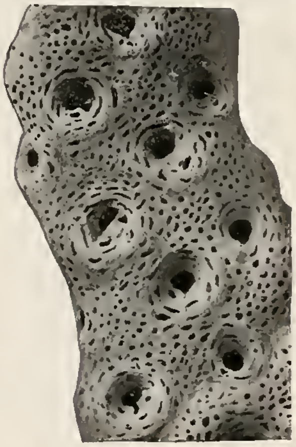
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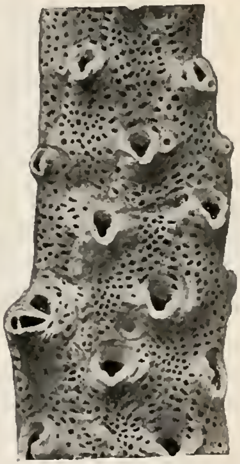
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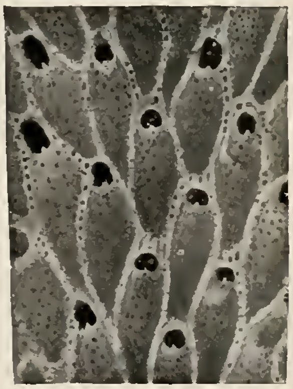
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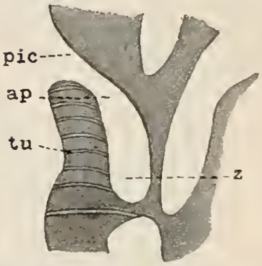

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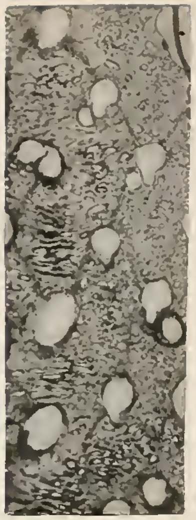
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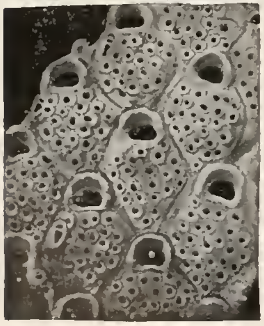
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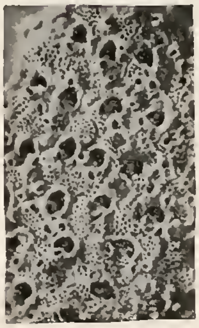
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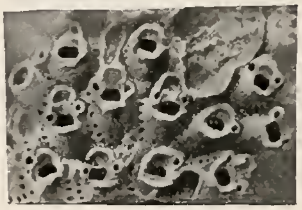
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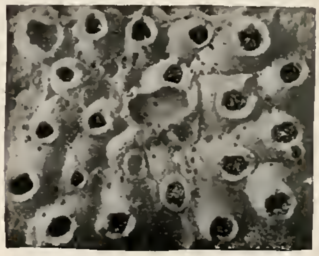
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CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.

Plate 14.

Fig. 1. *Callopora cucullata*, new species (p. 153).

The incrusting type-specimen, × 20, exhibiting the hyperstomial ovicell with a triangular area and the acuminate avicularia.

Lower Jacksonian: 3½ miles southeast of Shell Bluff post office, Georgia.

Cat. No. 63849, U.S.N.M.

Figs. 2–4. *Schizemiella claibornica* Canu and Bassler, 1917 (p. 440).

2. Surface of the bilamellar zoarium, × 20. The wide rimule of the apertura, the hyperstomial ovicell (broken), and the avicularium within the peristomie are illustrated.
3. Another fragment, × 20, exhibiting several zooecia with broken ovicells. At the top the interior of the zooecia with the tremocystal pores is visible.
4. Sketch of the apertura, much enlarged, to show the wide rimule.

Claibornian (Gosport sand): Claiborne, Alabama.

Cat. No. 62595, U.S.N.M.

Figs. 5–15. *Metradolium sulciferum*, new species (p. 417).

5. Four fragments of the free, bilamellar, narrow zoarium, natural size.
6. A young frond, × 20, showing the lateral zooecia only are provided with avicularia. A few of the zooecia are limited by a thread-like elevation.
7. A more developed zoarium, × 20. The large avicularia are restricted to the lateral zooecia.
8. An example with normal zooecia, × 20, exhibiting large and small avicularia.
9. Another stage of growth, × 20, with the avicularia less conspicuous.
10–11. Views of two old zoaria, × 20, in which most of the avicularia are obscured by the tubules.
12. A young branch, × 20. The large avicularium is developed only on the lateral zooecia.
13. Interior of the zooecia, × 20. A lyrula-like process is visible on the proximal border of the apertura.
14. Schematic drawing of a longitudinal section, × 20. *ap*, apertura; *pie*, peristomice; *tu*, tubule; *z*, zooecium.
15. Tangential thin section, × 20, showing the appearance of the sulci.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 63850, U.S.N.M.

Fig. 16. *Cheilopora orbifera*, new species (p. 526).

The unilamellar zoarium, × 20. The lateral avicularium and the pores of the tremocyst surrounded by a collar are distinctive.

Claibornian (Gosport sand): Bluff on Tombigbee River, Gopher Hill, Alabama.

Cat. No. 63851, U.S.N.M.

Fig. 17. *Porella obliqua*, new species (p. 481).

The incrusting type-specimen, × 20. The median avicularium is oblique while the frontal is often obscured by two adventitious avicularia.

Lower Jacksonian: 3½ miles southeast of Shell Bluff post office, Georgia.

Cat. No. 63852, U.S.N.M.

Figs. 18, 19. *Perigastrella ansata*, new species (p. 576).

18. View of the incrusting zoarium, × 20, exhibiting ovicells (broken) and avicularia on the peristome.
19. Zooecia, × 20. The detachable pleurocyst and the olocyst with widely spaced areolae are shown.

Claibornian (Gosport sand): 1 mile southwest of Rockville, Clarke County, Alabama.

Cat. No. 63853, U. S. N. M.

PLATE 15.

FIGS. 1–10. *Ochetosella Jacksonica* Canu and Bassler, 1917 (p. 452).

1. Simple and bifurcated fragments of the free cylindrical zoarium, natural size.
2. Four specimens, natural size, showing anastomosis of the branches.
3. A small fragment, × 20, with the ovicell preserved on one zooecium.

4, 5. Fragments of young zoaria, × 20, with well-developed mucro.

6. A young branch, × 20, showing no separating thread between the zooecia.
7. More mature example, × 20. A prominent ridge separates the zooecia.
8. Zooecia in a more advanced stage, × 20, where the pleurocyst covers the frontal.
9. Zooecia, × 20, with well-developed areolae, around which the pleurocyst has been deposited. The uppermost zooecium bears an avicularium.
10. An example, × 20, with several ovicelled zooecia. The pleurocyst covers the ovicells.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina

Cat. No. 62599, U.S.N.M.

FIGS. 11–19. *Adeonellopsis transversa*, new species (p. 566).

11. Fragments of the free bilamellar zoarium, natural size.
12. Fragment, × 20, exhibiting gonoecia, distinguished by their larger size and by having three ascopores situated in a triangular cavity of the frontal.
13. View of the interior of the zooecia, × 20. The apertura, ascopore, and areolae are illustrated.
14. Tangential thin section, × 20, showing union of occasional areolae to form adventitious avicularia.
15. Several zooecia of a tangential thin section, × 100. The triangular opening below the apertura is the median avicularium. Below this is the ascopore.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 63854, U.S.N.M.

16. Zooecia, × 20, with the peristomial avicularia visible and salient.
17. Another fragment, × 20, in which the peristomial avicularia are imbedded and invisible.
18. Surface, × 20, exhibiting zooecia with the peristomial avicularia imbedded, the adventitious avicularia visible, the ascopore opening near the peristomie and two adventitious avicularia.
19. An example, × 20, in which the ascopore opens frequently into the peristomie.

Claibornian (Gosport sand): 1 mile southwest of Rockville, Alabama.

Cat. No. 63855, U.S.N.M.

FIGS. 20–26. *Adeonellopsis quisenberryae*, new species (p. 566).

20. The free bilamellar zoarium, natural size.
21. Portion of a young zoarium, × 20. The cribriform area contained but one pore.
22. An old example, × 20, showing the salient adventitious avicularium.

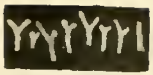
Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 63856, U.S.N.M.

23. View of the basal zooecia, × 20, covered with a thick calcareous deposit. The avicularium is visible at the bottom of the total area.
24. Transverse section of a zoarium, × 20, showing the thick walls.
25. A fragment, × 20, exhibiting old zooecia with the avicularium no longer visible.
26. Interior of zooecia, × 20. The cribriform area has five to seven pores.

Claibornian (Gosport sand): 1 mile southwest of Rockville, Alabama.

Cat. No. 63857, U.S.N.M.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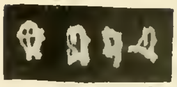
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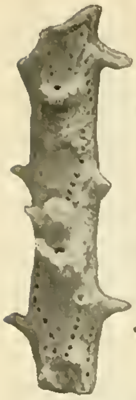
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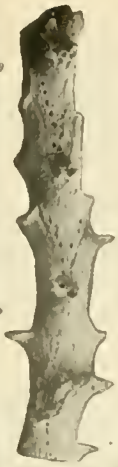
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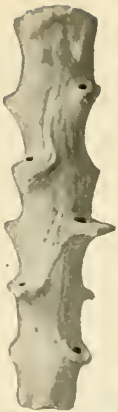
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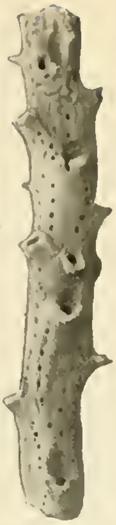
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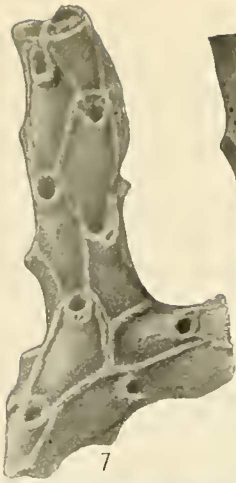
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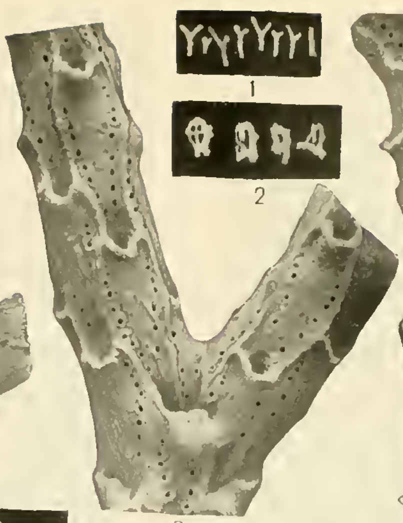
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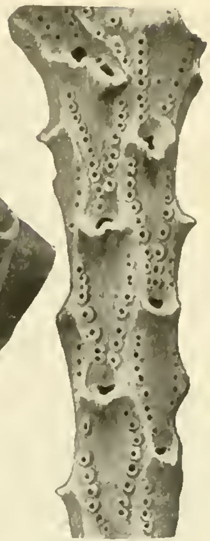
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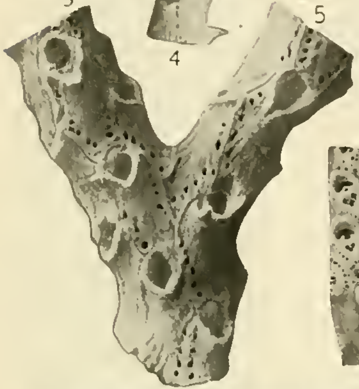
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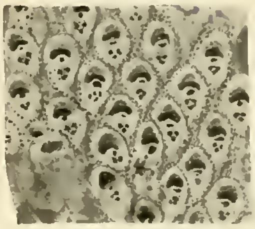
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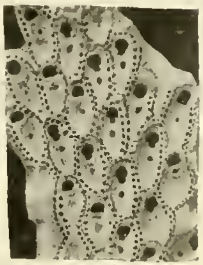
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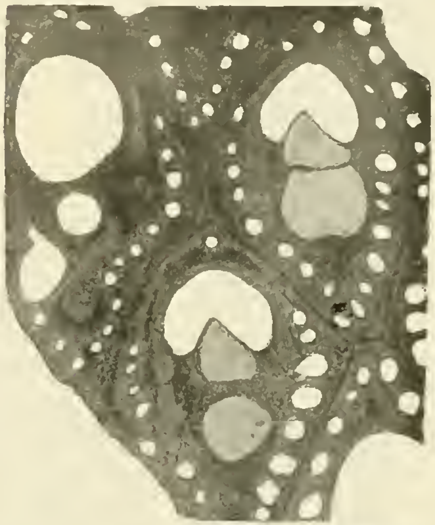
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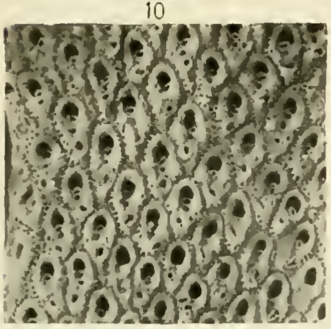
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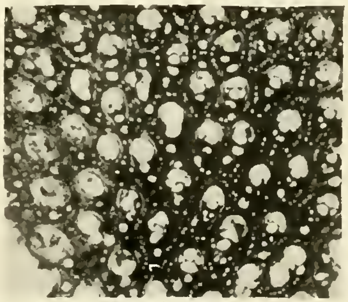
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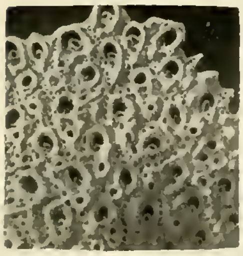
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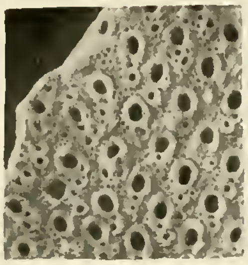
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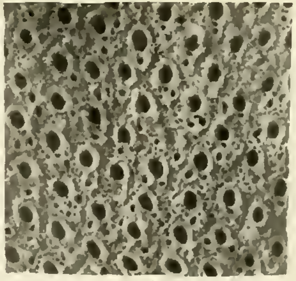
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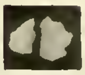
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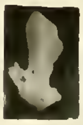
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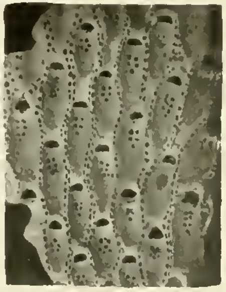
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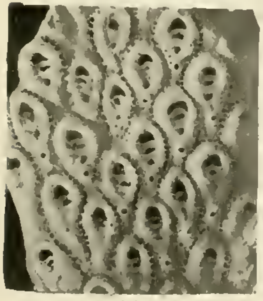
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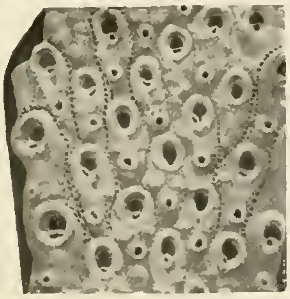
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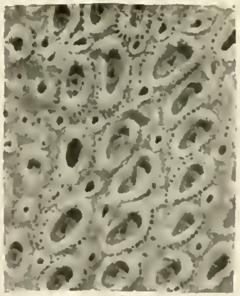
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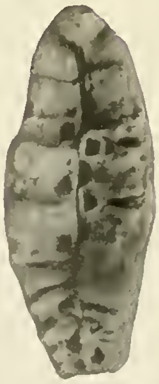
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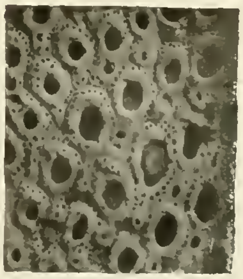
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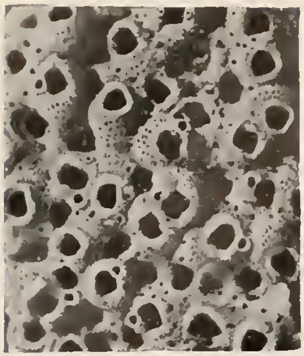
CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.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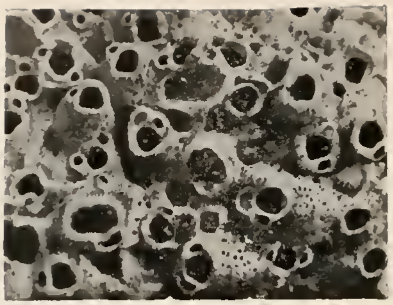
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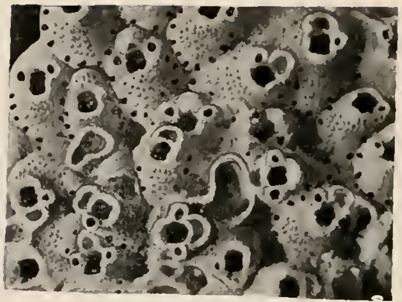
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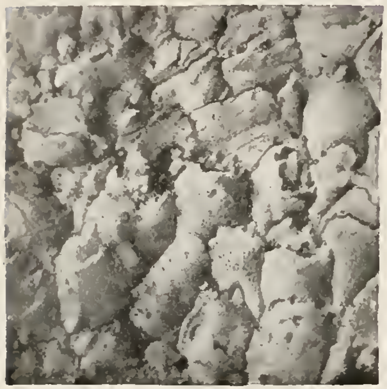
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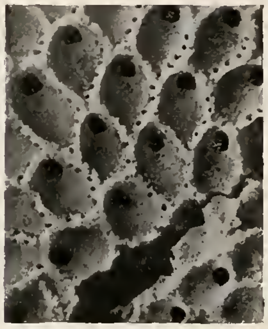
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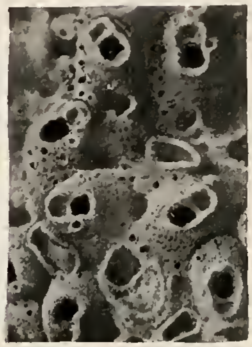
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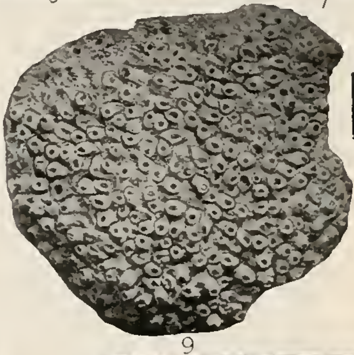
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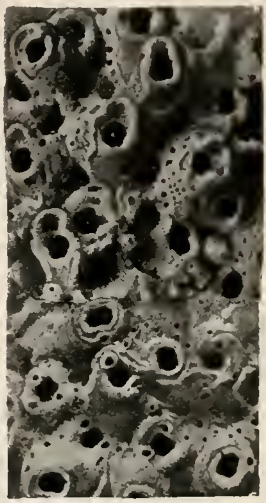
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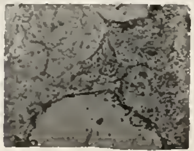
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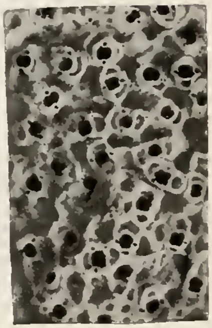
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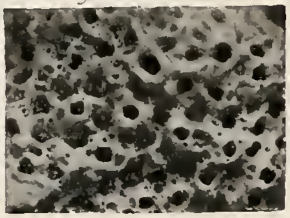
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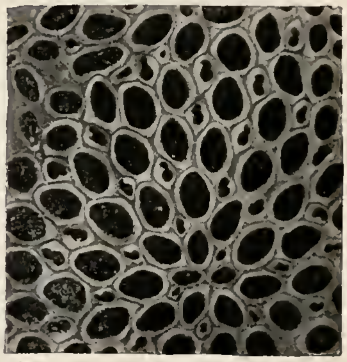
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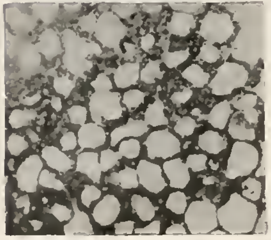
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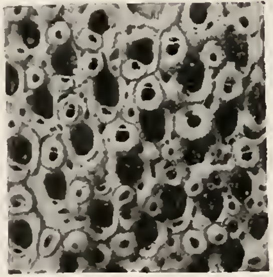
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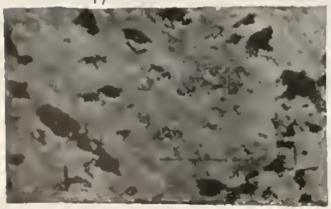
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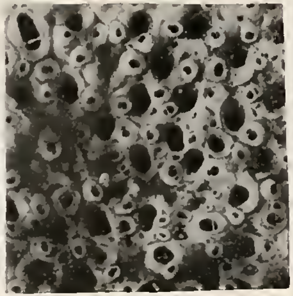
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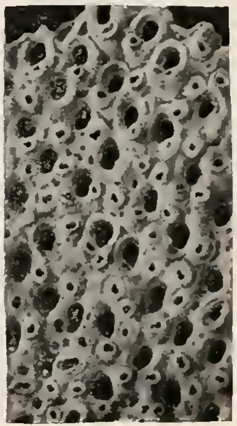
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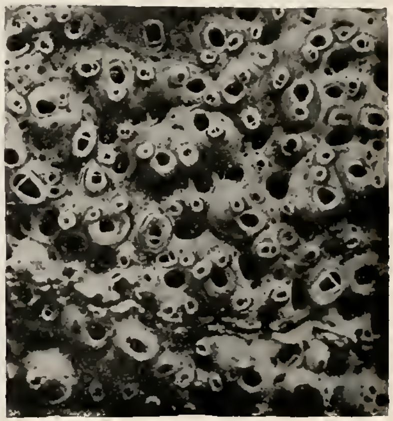
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CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 16.

FIGS. 1–9. *Holoporella granulosa*, new species (p. 607).

1. Two examples of the small globular zoarium, natural size.
2. Surface of zooecia, × 20, showing the convex frontal with scattered areolar pores.
3. Another surface, × 20, with several ovicelled zooecia.
4. Well preserved zooecia, × 20, several of which have the ovicell intact. The frontal of both ovicell and zooecia is granular.
5. Lower side of zoarium, × 20. The zooecia are oriented and their walls are composed of several calcareous layers.
6. Interior of zooecia, × 20. The apertura is oblique and without cardelles, and the areolae are visible.
7. Zooecia, × 20, with interzooecial avicularia having no pivot.
8. Surface of zoarium, × 20, exhibiting zooecia in which the granular pleurocyst (with areolae) may be separated from the subjacent, smooth olocyst.
9. Celluliferous side of a zoarium, × 5.

Clabornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63858, U.S.N.M.

FIGS. 10–15. *Holoporella orbiculifera*, new species, (p. 605).

10. The small massive zoarium, natural size.
11. Surface, × 20, showing the distinct superficial zooecia and the less distinct deep zooecia.
12. Portion of another zoarium, × 20, in which the frontal of the superficial zooecia preserves a few areolae.
13. A small portion of a tangential thin section, × 100. The olocystal structure of the wall is shown.
14. Another portion, × 100, passing through the frontal and showing its olocystal nature.
15. Tangential thin section, × 20, exhibiting pores between the zooecia. These are the cavities of the beak bearing the avicularium.

Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63859, U.S.N.M.

FIG. 16. *Vibracellina capillaria* Canu and Bassler, 1917 (p. 110).

The incrusting type zoarium, × 20, exhibiting the region of the ancestrula and neighboring zooecia.

Claibornian (Cook Mountain formation): Moseley's Ferry, Caldwell County, Texas.
Cat. No. 62572, U.S.N.M.

FIGS 17–22. *Kleidionella parasitica*, new species (p. 619).

17. The massive zoarium, natural size. Bilamellar fronds are given forth from this base.
18. Surface, × 20, showing interzooecial avicularia with pivot and rounded beak; they are as large as the zooecia.
19. Lower side of zoarium, × 20.

20, 21. Portions of two bilamellar fronds, × 20, where the axial zooecia are oriented.

22. Basal part of the zoarium, × 20, where cumulate zooecia are best developed. Numerous small avicularia with pivot and a lesser number of the large interzooecial avicularia are visible.

Lower Jacksonian: Three and one-half miles southeast of Shell Bluff post office, Georgia.
Cat. No. 63860, U.S.N.M.

PLATE 17.

FIGS. 1–14. *Acanthionella occioporosa*, new species (p. 614).

1. Fragments of the free bilamellar zoarium, natural size.
2. Surface, × 20, showing zooecia with a thick frontal and separated by a distinct thread-like ridge. Both oriented and cumulate zooecia are present.
3. Another surface, × 20, showing that the lyrula is not on the peristomial avicularium.
4. A fragment, × 20, with ovicelled zooecia, a few of which show the much branched spine on its porous area.
5. Another fragment, × 20. The lyrula is developed on the peristominal avicularia.
6. An interior, × 30, showing the olocystal fibers arranged radially about the lyrula.
7. Young zooecia, × 20, with gibbose frontal.
8. The usual aspect of the interior of the zooecia, × 20.
9. Transverse fracture of zoarium, × 20, illustrating the concentric lamellar structure.
10. Another portion of the same zoarium shown in figure 2, ×20. Cumulate zooecia are developed with gibbosities.
11. Tangential thin section, × 20.
12. Tangential section of three zooecia, × 100, passing through the frontal. The arrangement of the olocystal elements in radial fibers about the lyrula is apparent.
13. Thin section, × 100, showing microscopic structure of zooecial wall.
14. Several zooecia of the same section, × 100. The apertura, lyrula and ovicells are shown.

Claibornian (Gosport sand): Claiborne, Alabama.

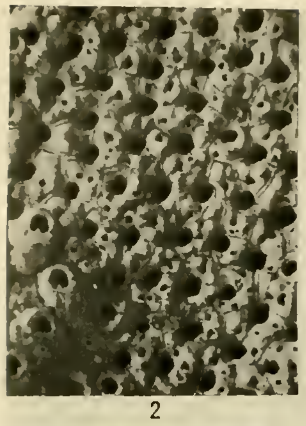
Cat. No. 63861, U.S.N.M.

FIGS. 15, 16. *Onychocella georgiana*, new species (p. 206).

15. The incrusting zoarium, × 20. The cryptocyst of the zooecia is finely granulose.
16. Another small zoarium, × 20, showing slight variations.

Lower Jacksonian: Three and one-half miles southeast of Shell Bluff post office, Georgia.

Cat. No. 63862, U.S.N.M.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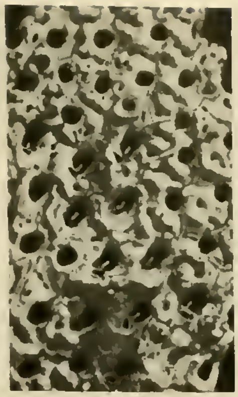
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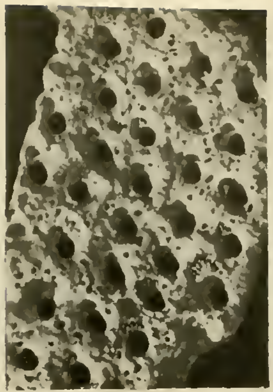
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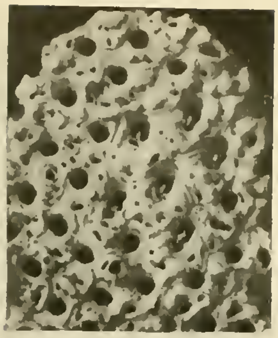
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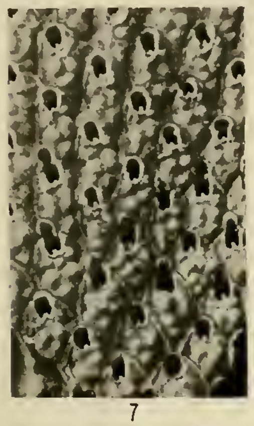
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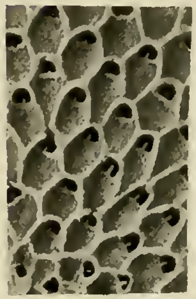
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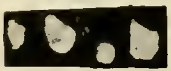
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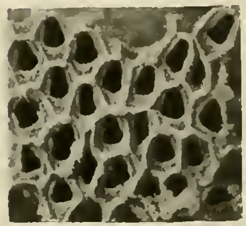
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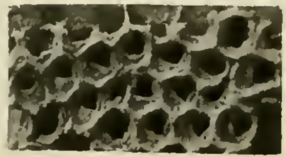
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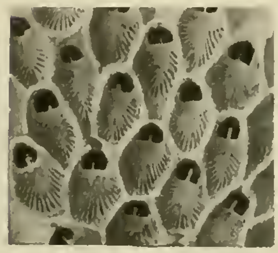
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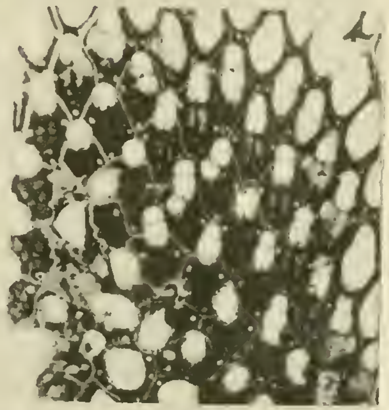
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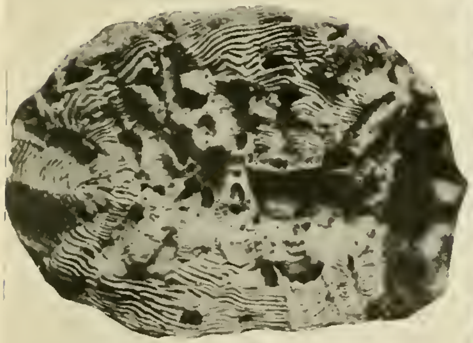
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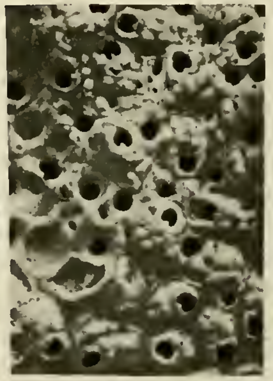
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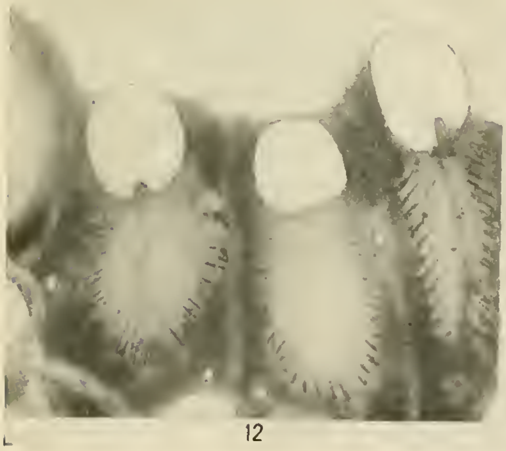
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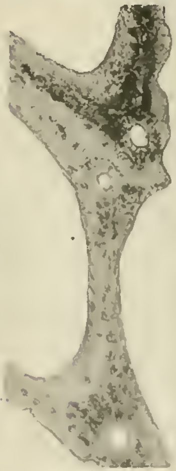
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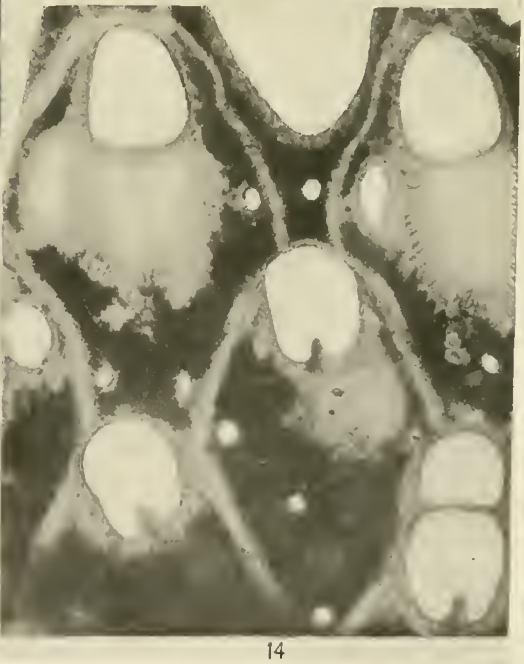
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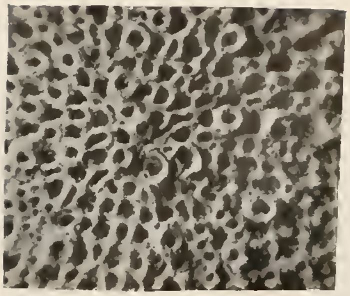
CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.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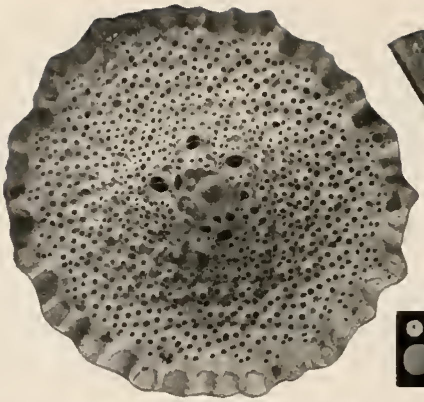
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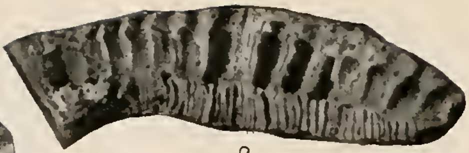
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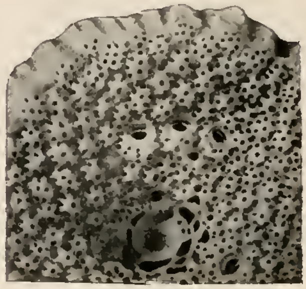
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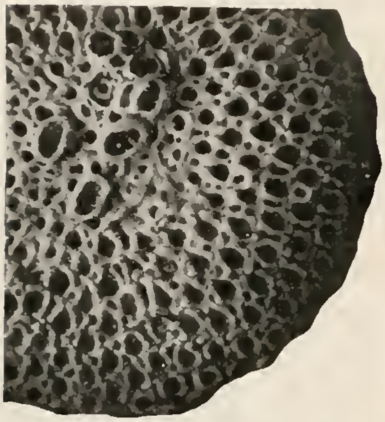
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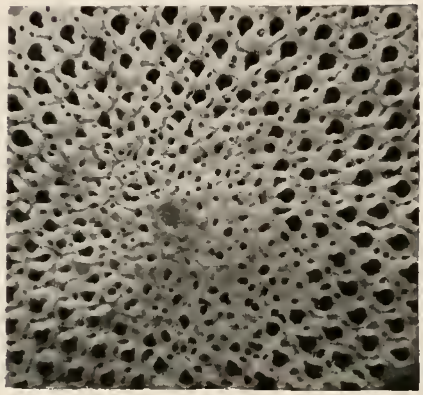
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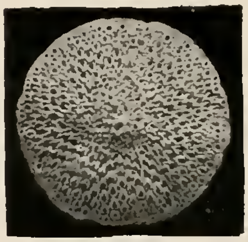
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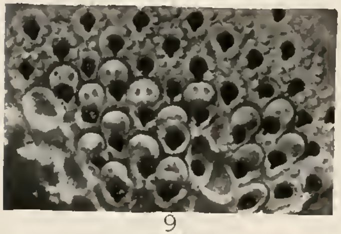
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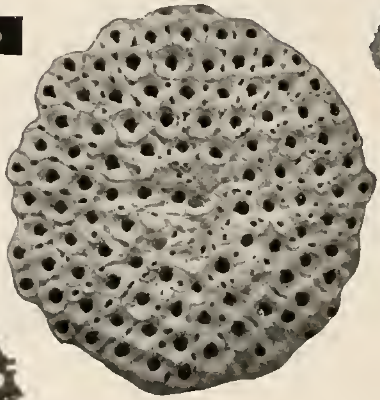
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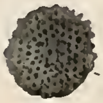
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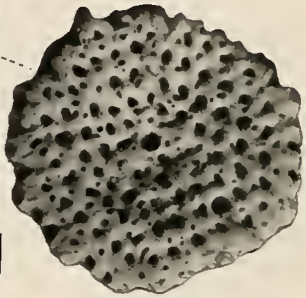
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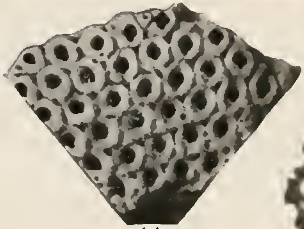
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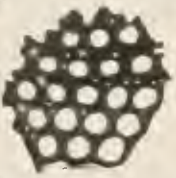
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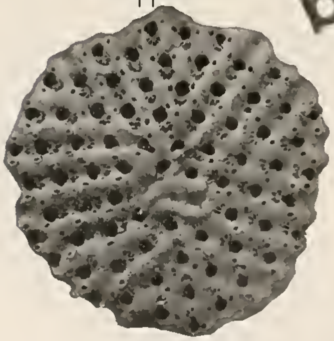
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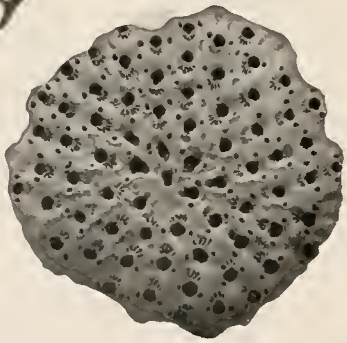
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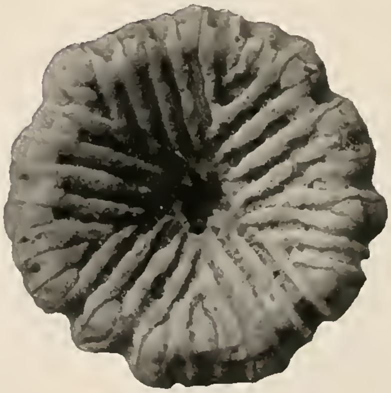
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CLAIBORNIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 18.

FIGS. 1–9. *Schizorthosecos interstitia* Lea, 1833 (p. 626).

1. Six zoaria, natural size.
2. Transverse fracture of a zoarium, × 20. The pores of the base are prolonged into tubules.
3. Ancestrular portion of a zoarium, × 20, with numerous heterozooecia.
4. Inner side of a zoarium, × 20, showing the ancestrula at the center and avicularia with bar near by.
5. Another view of the ancestrula as shown on the inner side, × 20, where simple cavities surround the ancestrula.
6. Portion of outer side of zoarium, × 20, showing several large membraniporoid zooecia.
7. Central portion of the exterior of a zoarium, × 20. The ancestrula is surrounded by radicular zooecia.
8. An example, × 6.
9. Portion of zoarium, × 20, with ovicelled zooecia.

Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 62809, U.S.N.M.

FIGS. 10–15. *Schizorthosecos grandiporosum*, new species (p. 627).

10. Two zoaria, natural size.
11. Portion of a zoarium, × 20, showing distinctness of zooecia exteriorly.
12. Tangential thin section, × 20.
13. Celluliferous outer face, × 20, illustrating the zooecia and the separating zooeciules.

14, 15. Basal side of a zoarium, × 6, and × 20. The zooecia are indistinct, but each is marked by one large and one small pore.

Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63863, U.S.N.M.

FIGS. 16–19. *Schizorthosecos radiatum*, new species (p. 628).

16. Two examples, natural size.

17, 18. Two zoaria, × 20. The lateral avicularia and the costules of the zooecial frontal are indicated.

19. Inner side of a zoarium, × 20, exhibiting the characteristic radiating ribs.

Claibornian (Gosport sand): Claiborne, Alabama.
Cat. No. 63864, U.S.N.M.

PLATE 19.

FIGS. 1–3. *Electra parvimater*, new species (p. 77).

1. Small portion of a zoarium, × 20, exhibiting a uniserial branch.
2. A multiserial portion of the same zoarium, × 20.
3. Ancestrular portion, × 20.

Lower Jacksonian (Moodys marl): Two and one-half miles north of Robert, Newton County, Mississippi.

Cat. No. 63865, U.S.N.M

FIG. 4. *Pyripora tuberculum* Lonsdale, 1845 (p. 80).

A zoarium, × 20, with a calcified zooecium among the ordinary ones.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63866, U.S.N.M.

FIG. 5. *Membraniporina sinesolum*, new species. (p. 96).

Surface of type-specimen, × 20, showing the absence of basal olocyst of zooecia.

Lower Jacksonian (Moodys marl): Two and one-half miles north of Robert, Newton County, Mississippi.

Cat. No. 63876, U.S.N.M.

FIGS. 6, 7. *Conopeum tuberosum*, new species (p. 96).

6. The incrusting type-specimen, × 20, showing the characteristic interopesial cavities and the frontal tuberosity.
7. Portion of the same zoarium, × 20, exhibiting the small elliptical ancestrula.

Lower Jacksonian (Moodys marl): Two and one-half miles north of Robert, Newton County, Mississippi.

Cat. No. 63868, U.S.N.M.

FIGS. 8–10. *Conopeum hoockeri* Haime, 1850 (p. 91).

8. Surface of the incrusting zoarium, × 20.
9. Part of another zoarium, × 20, illustrating the humplike gymnocyst and the elliptical impression left upon the substratum.
10. An abraded zoarium, × 20. Two lateral and one distal septulae are to be noted.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 63869, U.S.N.M.

FIGS. 11–13. *Conopeum concavum*, new species (p. 92).

11. Portion of a large incrusting zoarium, × 20. A number of the zooecia are closed by a perforated lamina.
12. Another zoarium, × 20, in which the concave cryptocyst and the perforations in the substratum are shown.
13. A third zoarium, × 20, exhibiting the interopesial cavities especially well.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

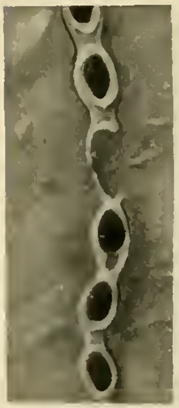
Cat. No. 63870, U.S.N.M

FIG. 14. *Membraniporina claviformis*, new species (p. 97).

The free club-shaped type example, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63871, U.S.N.M.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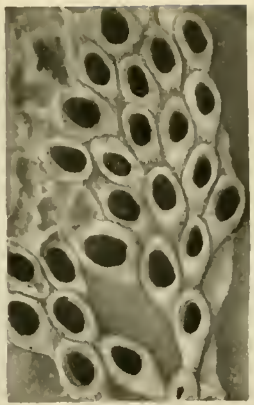
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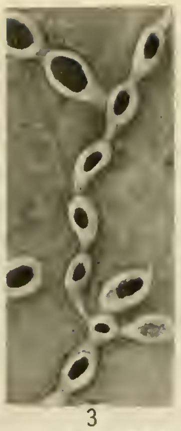
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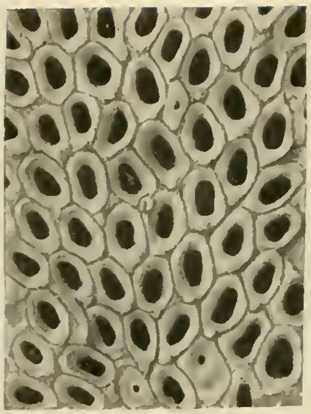
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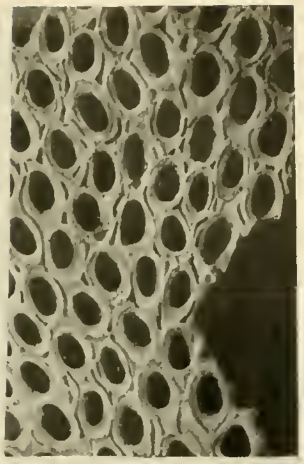
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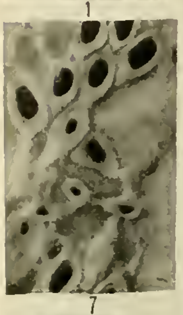
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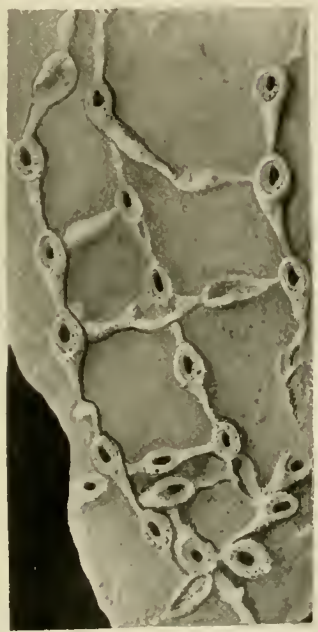
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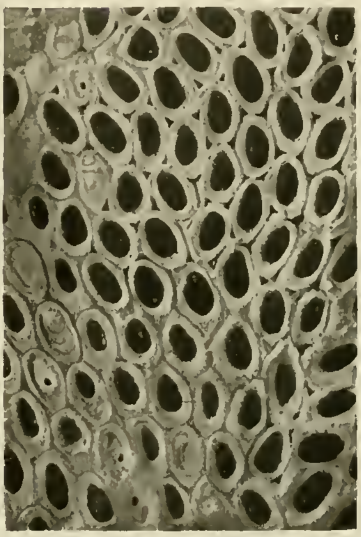
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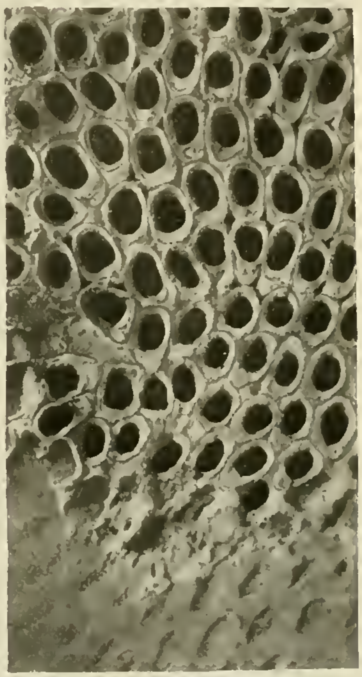
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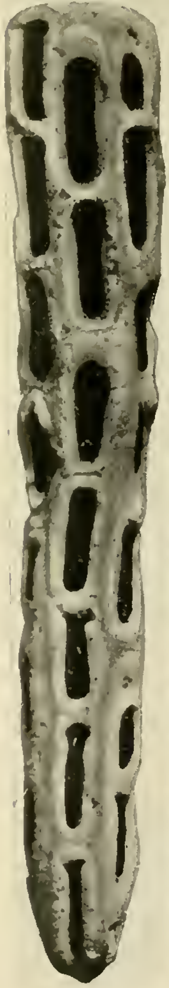
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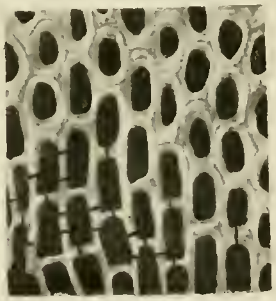
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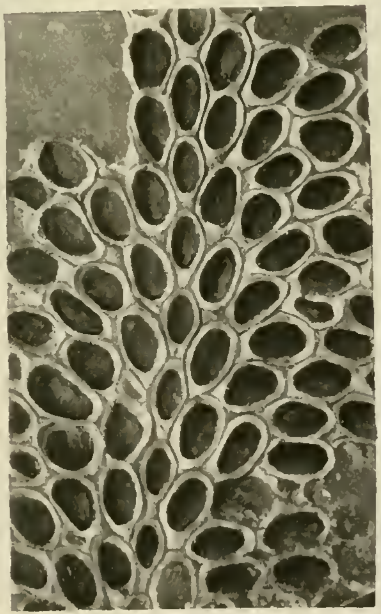
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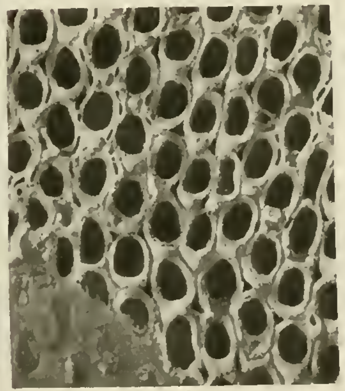
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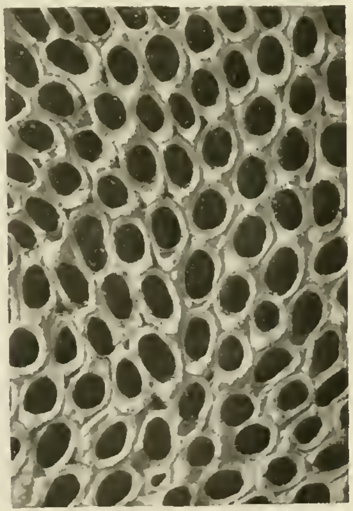
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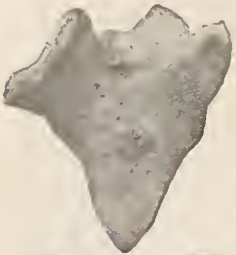
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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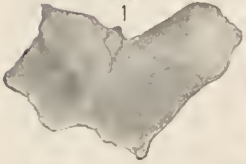
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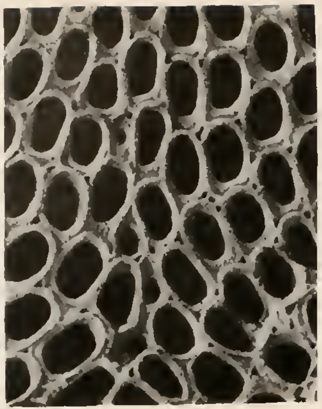
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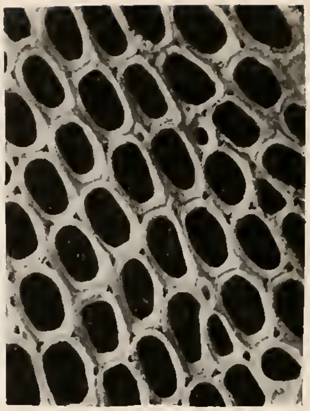
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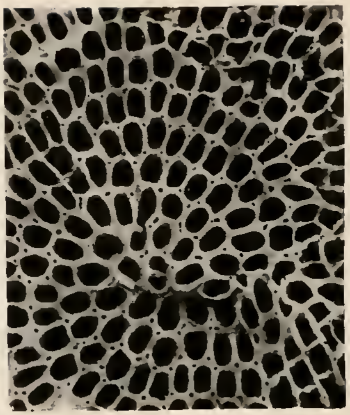
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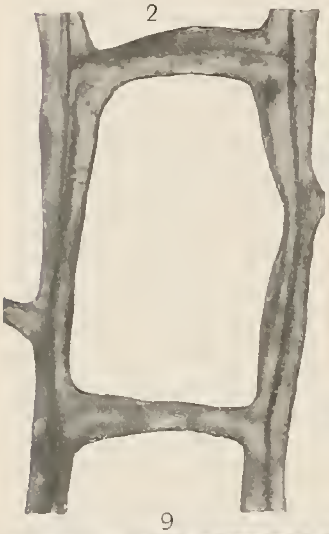
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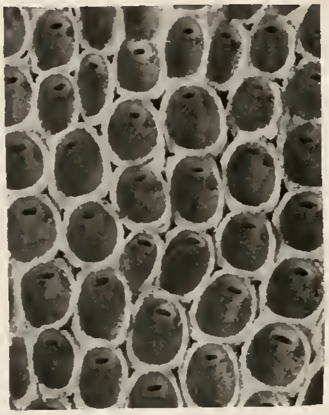
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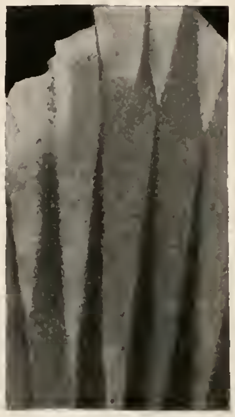
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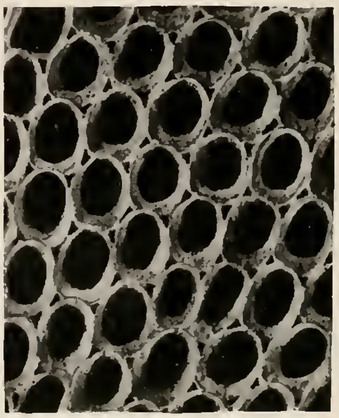
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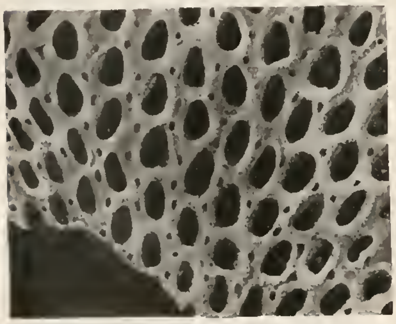
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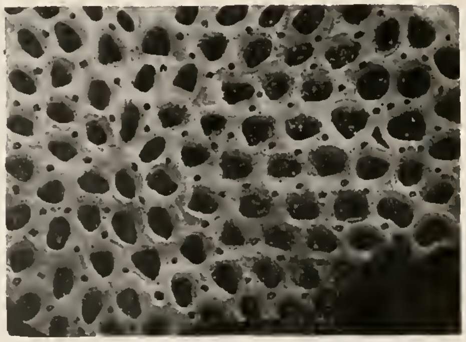
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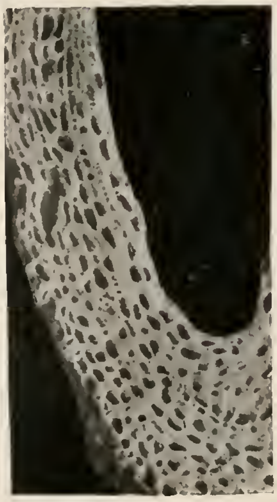
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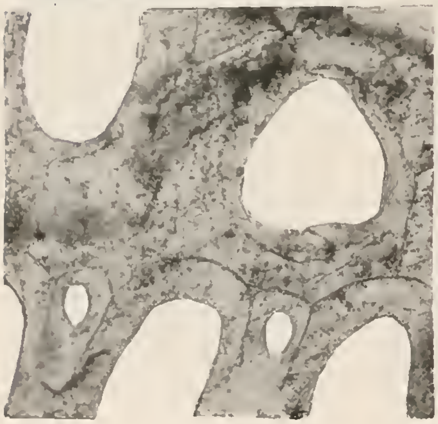
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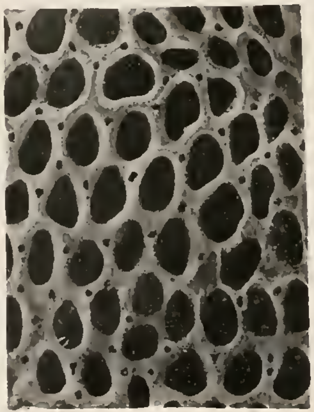
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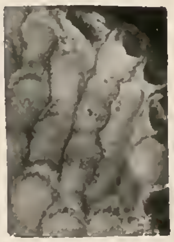
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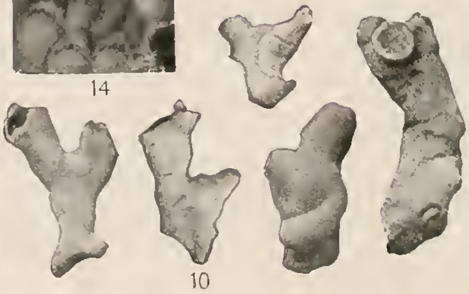
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Jacksonian Cheilostomatous Bryozoa.

PLATE 20.

FIGS. 1–9. *Conopeum lamellosum*, new species (p. 92).
1, 2. Two of the undulating zoarial fronds, natural size.
3, 4. Two views, × 20, of deformed zooecia showing variations in form.
5. Surface of zoaria, × 10, exhibiting origin of an additional lamella.
6. Young zooecia, × 20, with thin mural rim and the distal septula (in black) and two distal impressions of each zooecium (in gray) visible.
7. Dorsal of a zooecial layer, × 20.
8. Normal zooecia, × 20, with mural rim enlarged at the base and interopesial cavities plainly visible.
9. Tangential thin section of a zooecium, × 100, showing structure and occurrence of a septula.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63872, U.S.N.M.

FIGS. 10–16. *Conopeum arborescens*, new species (p. 93).
10. Five zoaria, natural size showing the free, irregular, branched form of growth.
11. Zooecial surface, × 20. The mural rims are sometimes separated by a small furrow.
12. A superimposed zoarial layer, × 20, exhibiting same methods of origin as in *Conopeum lamellosum*.
13. Zooecia, × 20, with interopesial cavities which sometimes resemble small avicularia.
14. Inner face of zoarium showing dorsal side of zooecia, × 20. Each has a distal collar.
15. Longitudinal section of one side of zoarium, × 10, exhibiting the many superimposed layers.
16. Tangential thin section, × 100, exhibiting wall structure. The interopesial cavities have special walls.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63873, U.S.N.M.

PLATE 21.

FIG. 1. *Membraniporina benjamini* Canu and Bassler, 1917 (p. 98).

Surface of the type-specimen, × 20. The large zooecia with the incomplete small canal in the opesium are to be noted.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.

Cat. No. 62569, U.S.N.M.

FIGS. 2–4. *Acanthodesia savartii* Audouin, 1826 (p. 100).

2. An incrusting zoarium, × 20, with long zooecia.
3. Another zoarium, × 20, exhibiting broad zooecia.

Vicksburgian ("Chimney rock" of Marianna limestone) One mile north of Monroeville, Alabama.

Cat. No. 63874, U.S.N.M.

4. A slightly abraded specimen, × 20, with the opesial denticle and the septulae visible in some zooecia.

Vicksburgian ("Chimney rock" of Marianna limestone). Three miles southeast of Vosburg, Jasper County, Mississippi.

Cat. No. 63875, U.S.N.M.

FIGS. 5–7. *Adenifera inarmata* Canu and Bassler, 1917 (p. 102).

5. Portion of the unilamellar zoarium, × 20. The distal elevation of the mural rim is well developed.
6. Another zoarium, × 20, in which the distal thickening exhibits the two gland openings.
7. Dorsal side of zoarium, × 10, showing the pronounced hydrostatic tuberosities.

Middle Jacksonian: near Lenuds Ferry, South Carolina.

Cat. No. 62570, U.S.N.M.

FIGS. 8–14. *Otionella cava*, new species (p. 108).

8. Several fragments, natural size, of the orbicular zoarium.

9, 10. Views of two zoaria, × 20. The arrangement of the zooecia in quincunx and the large auriculated vibracula are characteristic.

11. View of dorsal side, × 20, showing small hydrostatic tuberosities.
12. A zoarium, × 20, with smaller vibracula than usual.
13. Dorsal side, × 20. The ribs are uncalcified and the interior is filled with a mealy powder.
14. Dorsal side, × 20, showing the hollow radial ribs.

Middle Jacksonian: Baldock, Barnwell County, South Carolina.

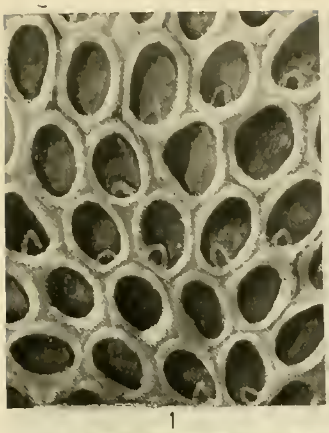
Cat. No. 63876, U.S.N.M.

FIGS. 15–17. *Hincksina smithi*, new species (p. 113).

15. Surface of the incrusting zoarium, × 20. Several zooecia are provided with ovicells.
16. Another portion of the same zoarium, × 20, where the spines are especially well developed. Several ovicelled zooecia are present.
17. A third portion of the type, × 20, exhibiting the normal features.

Middle Jacksonian: Eutaw Springs, South Carolina.

Cat. No. 63877, U.S.N.M.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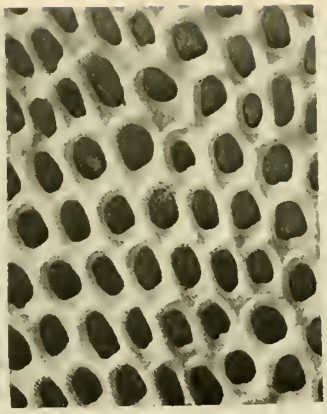
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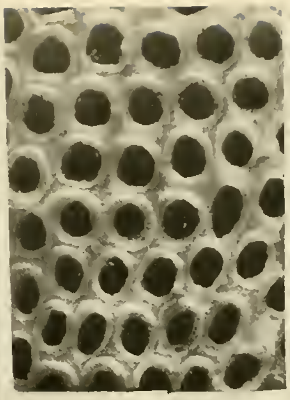
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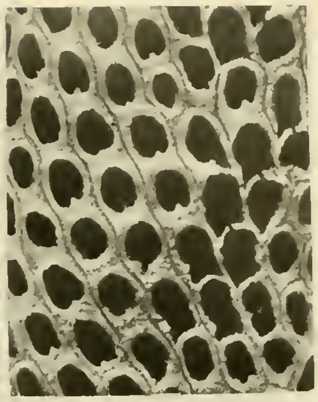
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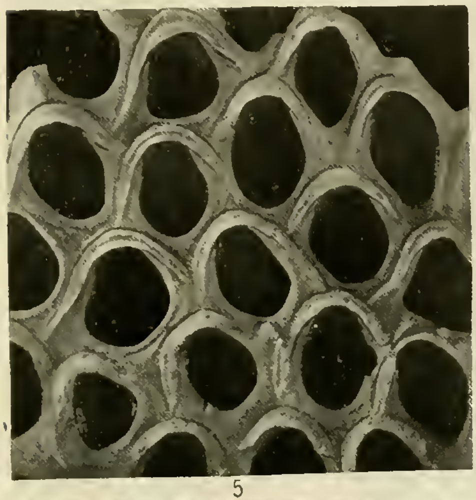
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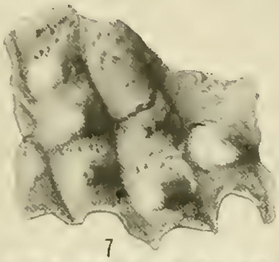
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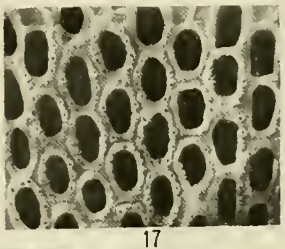
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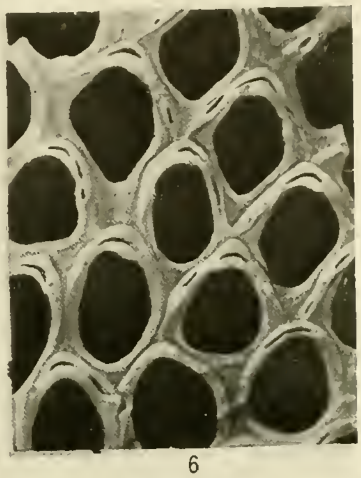
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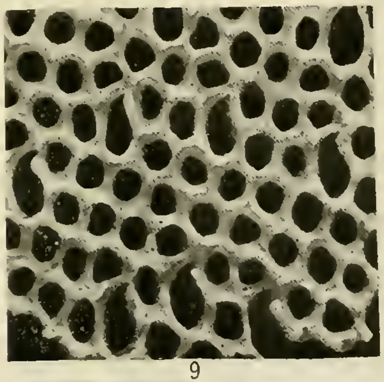
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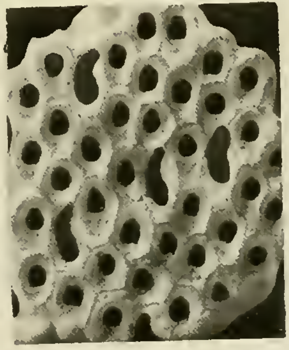
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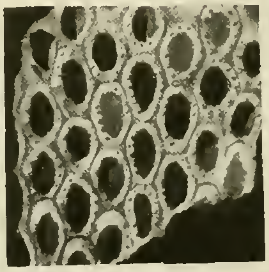
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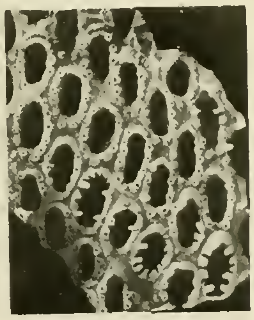
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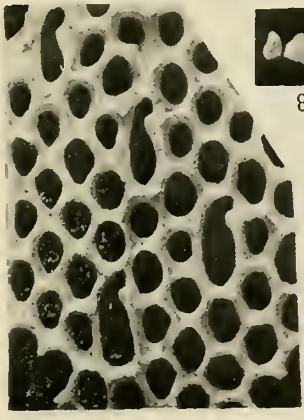
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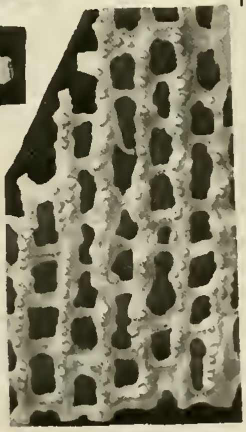
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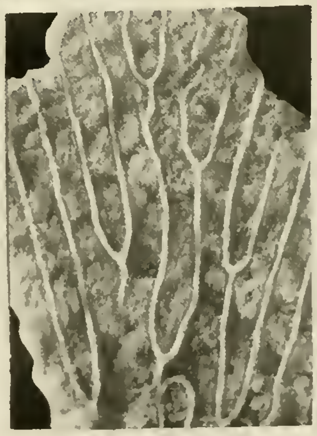
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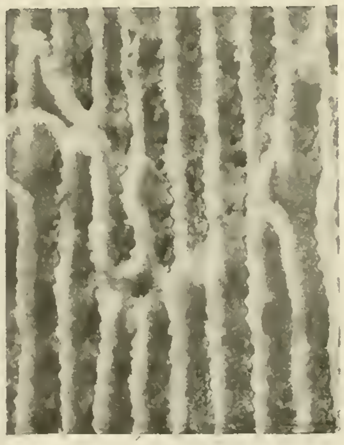
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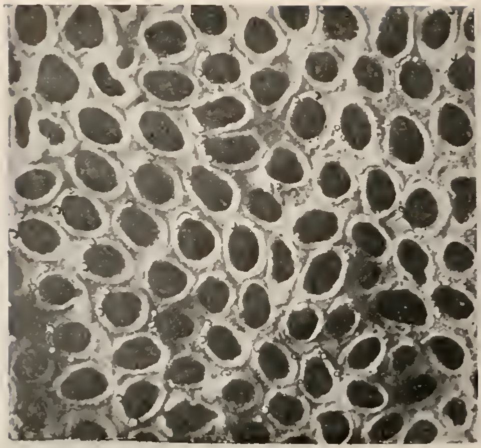
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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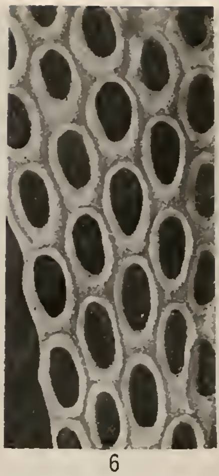
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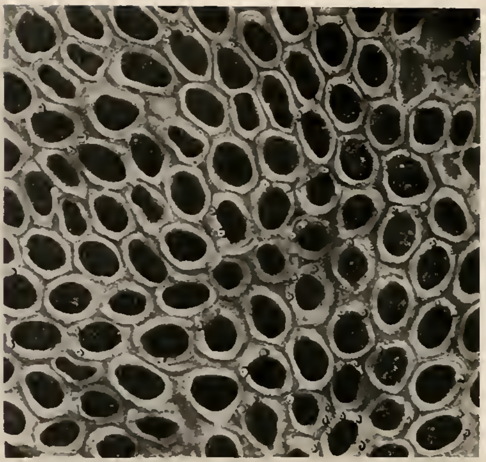
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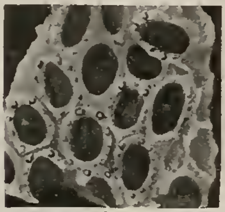
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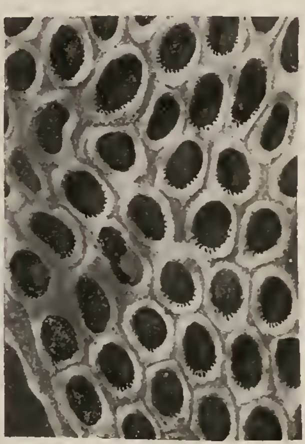
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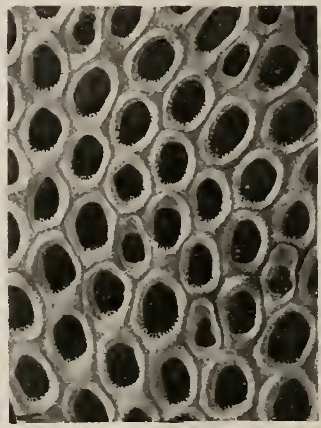
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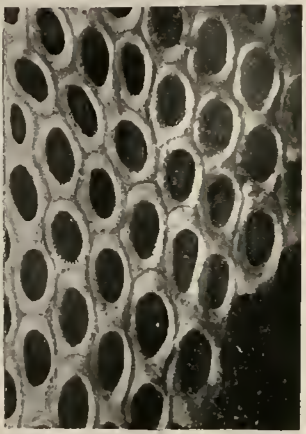
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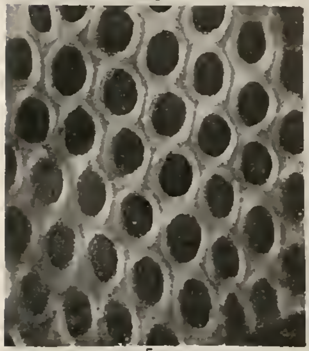
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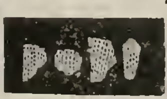
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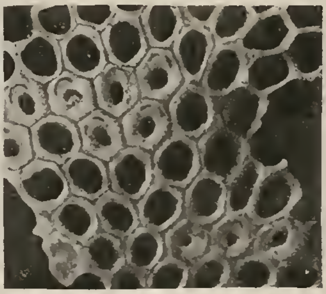
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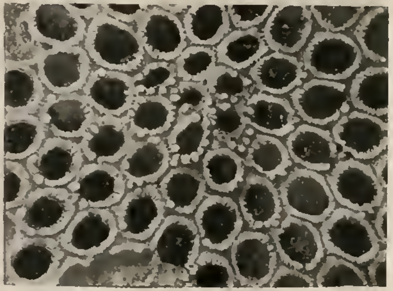
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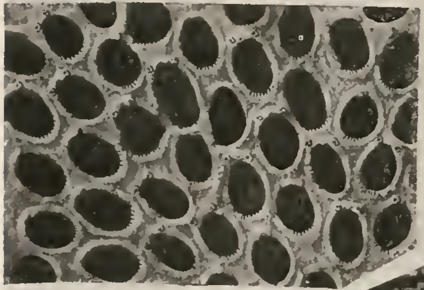
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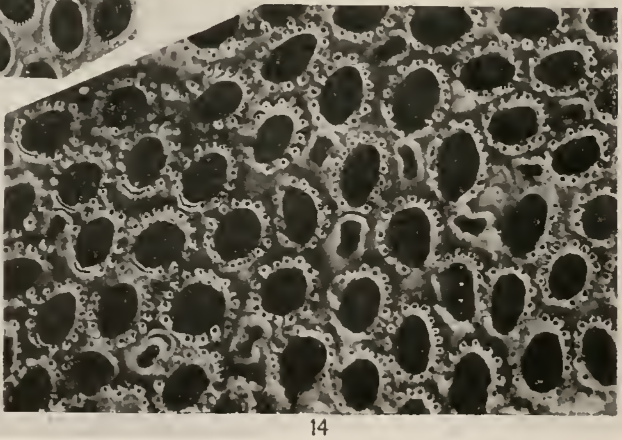
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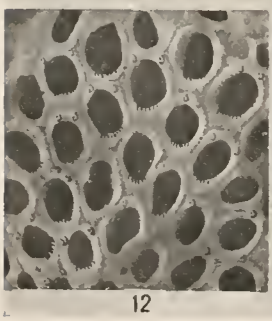
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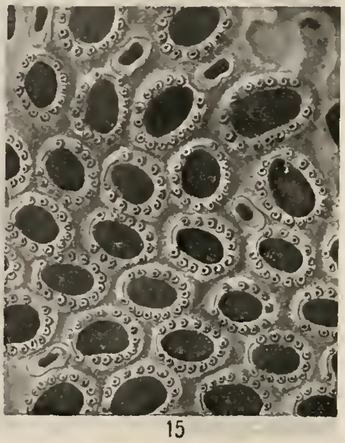
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Jacksonian Cheilostomatous Bryozoa.

PLATE 22.

FIGS. 1–3. *Hincksina reptans*, new species (p. 112).[1]

1. Surface of the incrusting zoarium, × 20. The irregular development of the spines and the small ovicells on some zooecia are to be noted.
2. Another portion of the same zoarium, × 20, with avicularian zooecia in the place of the primoserial ones.
3. A small fragment, × 20, preserving the spines more clearly than usual.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63878, U.S.N.M.

FIGS. 4–9. *Hincksina jacksonica* Canu and Bassler, 1917 (p. 113).

4. Four fragments of the bilamellar zoarium, natural size.
5. Surface of zoarium, × 20, with short zooecia.
6. Another fragment, × 20, exhibiting long zooecia.
7. A zoarium, × 20, with avicularian zooecia in the place of primoserial ones.
8. Surface, × 20, showing avicularian zooecia and several zooecia with ovicells.
9. A normal zoarium, × 20, with the ovicell on some of the zooecia.

Middle Jacksonian: Rich Hill, Crawford County, Georgia
Cat. No. 62573, U.S.N.M.

FIGS. 10–13. *Hincksina ocalensis*, new species (p. 114).

10. Well preserved portion of the incrusting zoarium, × 20. The ancestrula and the neighboring small zooecia are seen.
11. Normal zooecia, × 20.
12. Surface of a zoarium, × 20, preserving an avicularian zooecium and zooecia with mural rim much enlarged at the base.

Upper Jacksonian (Ocala limestone): 7 miles above Bainbridge, Georgia.
Cat. No. 63879, U.S.N.M.

13. A zoarium, × 20, with calcified zooecia, doubtfully referred to this species.

Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 63880, U.S.N.M.

FIGS. 14–15. *Hincksina parravicularia*, new species (p. 115).

14. The incrusting zoarium, × 20. The numerous spines and the small interzooecial avicularia are characteristic.
15. Surface of another zoarium, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63881, U.S.N.M.

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[1] For other species of *Hincksina*, see pl. 21, figs. 15–17 (*Hincksina smithi*); pl. 23, fig. 1 (*Hincksina megavicularia*); and pl. 23, figs. 2–5 (*Hincksina costulifera*).

PLATE 23.

FIG. 1. *Hincksina megavicularia* Canu and Bassler, 1917 (p. 116).

Surface of the incrusting type-specimen, × 20. Two of the large interzooecial avicularia are present at the lower edge of the figure.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 62574, U.S.N.M.

FIGS. 2–5. *Hincksina costulifera*, new species (p. 116).

2. Surface of the incrusting zoarium, × 20, with the spines coalesced on several zooecia.
3. A small zoarium, × 20.
4. Another zoarium, × 20, in which many of the zooecia have a small canal in the distal part of the mural rim.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63882, U.S.N.M.

5. A variety or closely related species, × 20, with the ovicell preserved on one zooecium.

Vicksburgian ("Chimney rock" division of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 63883, U.S.N.M.

FIGS. 6–7. *Ogivalina eximipora* Canu and Bassler, 1917 (p. 118).

6. Surface of the incrusting zoarium, × 20, exhibiting the general characters of the species.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63884, U.S.N.M.

7. Small portion of another example, × 20, preserving several endozooecial ovicells and the granular cryptocyst.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.

Cat. No. 62875, U.S.N.M.

FIG. 8. *Ogivalina elongata*, new species (p. 118).

Surface of the incrusting type-specimen, × 20, showing in addition to the usual features of the species, ovicelled and regenerated zooecia and some zooecia with granular cryptocyst.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.

Cat. No. 63885, U.S.N.M.

FIGS. 9, 10. *Ogivalina elongata minor*, new variety (p. 119).

9. Portion of incrusting zoarium, × 20.
10. Another zoarium, × 20, exhibiting more regular growth and better development of the cryptocyst.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.

Cat. No. 63886, U.S.N.M.

FIGS. 11–14. *Membrendoecium pyriforme* Canu and Bassler, 1917 (p. 123).

11. Portion of the incrusting zoarium, × 20, exhibiting the pyriform shape of the zooecia, the position of the avicularia and the very small ovicell.
12. Another zoarium, × 20, showing broad zooecia.
13. Zooecia, × 20, more widely separated than usual and with a convex gymnocyst.

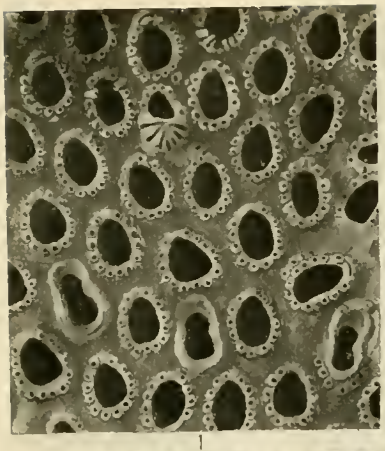
Middle Jacksonian: Near Lenuds Ferry, South Carolina.

Cat. No. 63887, U.S.N.M.

14. Surface of a specimen, × 20, in which the cryptocyst is well developed, and the zooecia are narrow.

Vicksburgian (Marianna limestone): Claiborne, Monroe County, Alabama.

Cat. No. 63888, U.S.N.M.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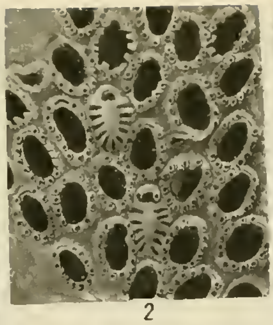
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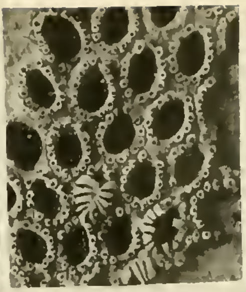
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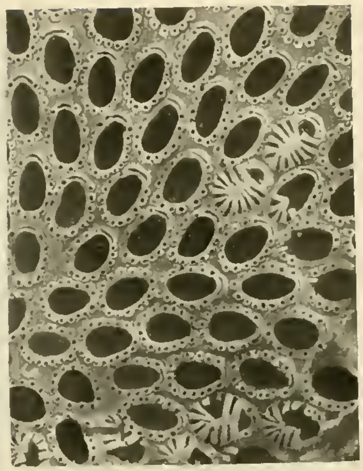
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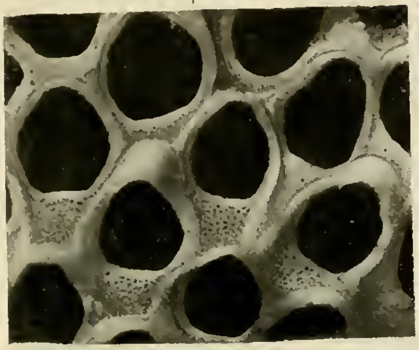
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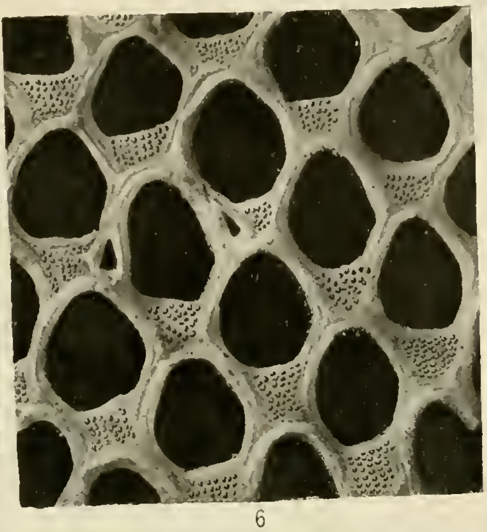
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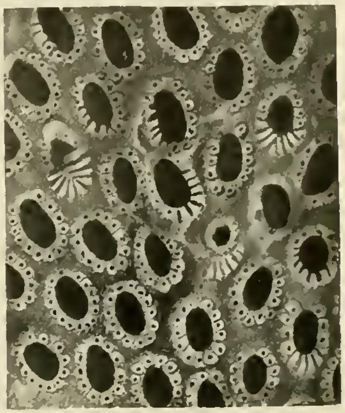
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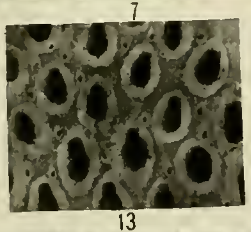
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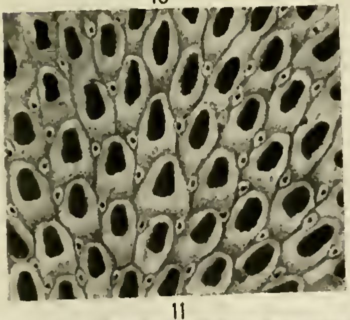
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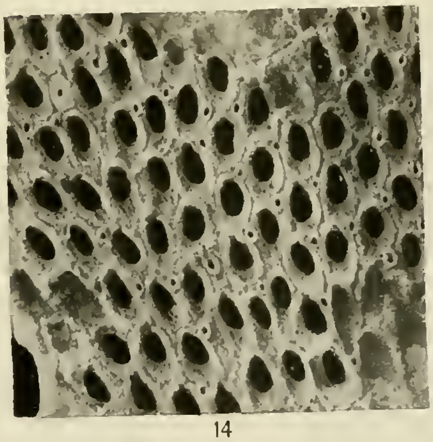
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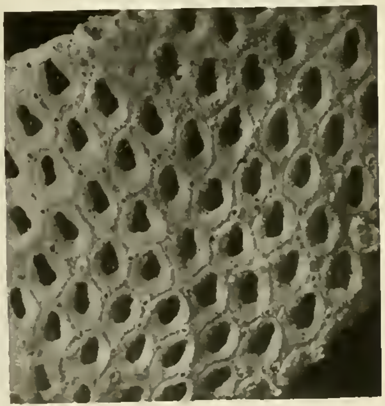
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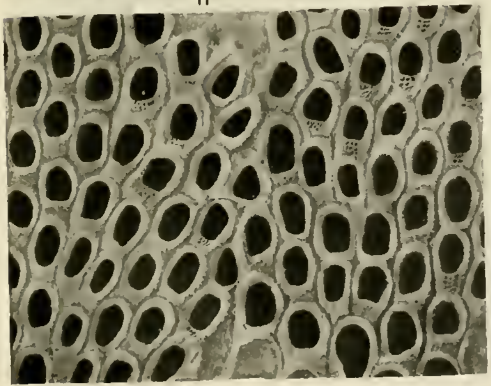
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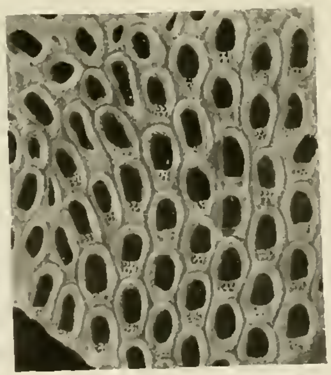
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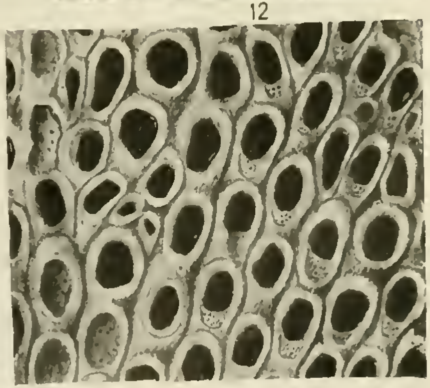
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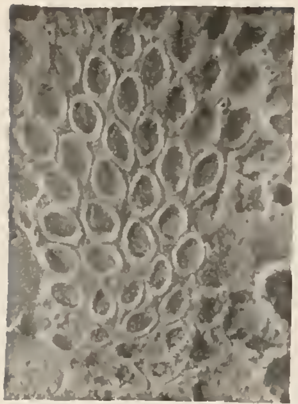
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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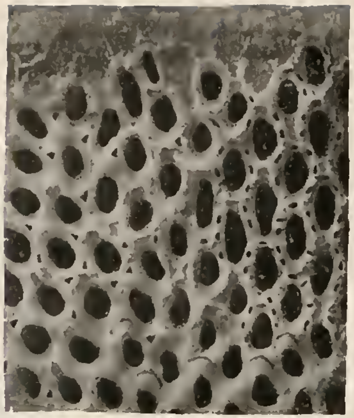
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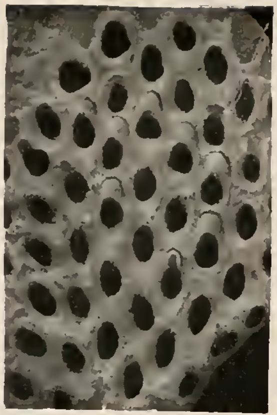
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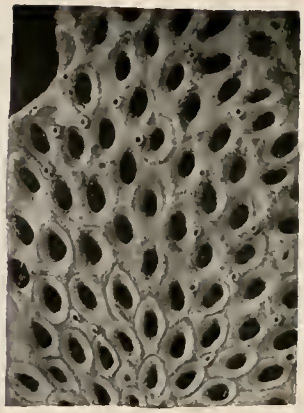
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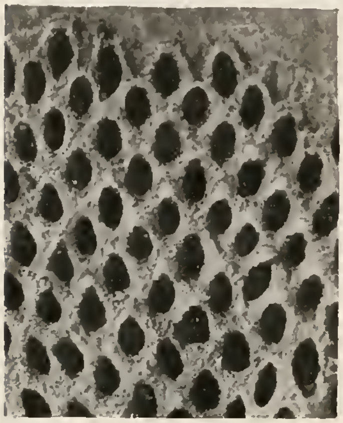
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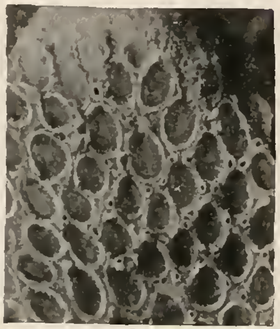
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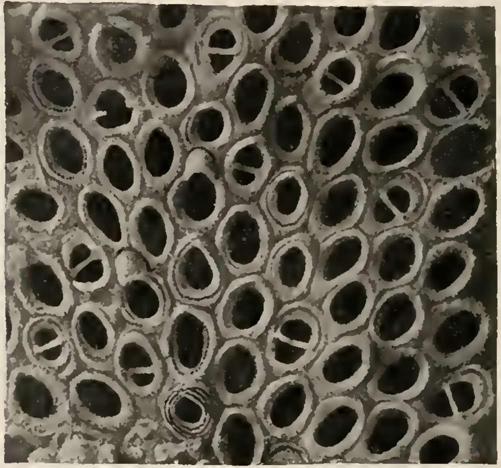
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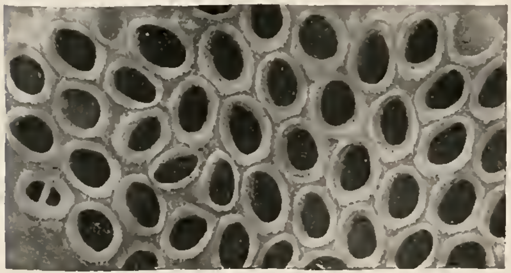
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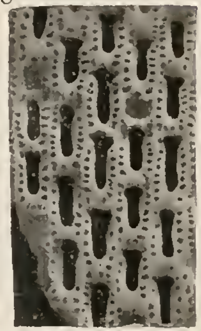
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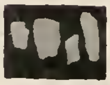
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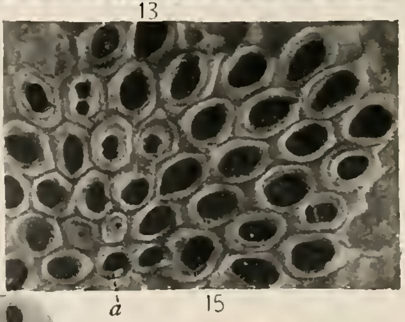

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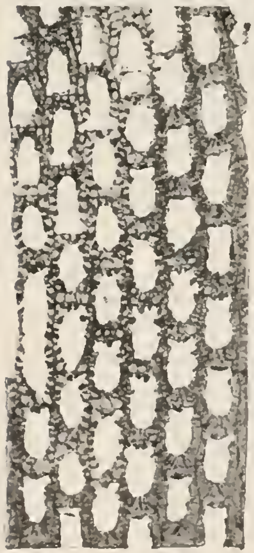
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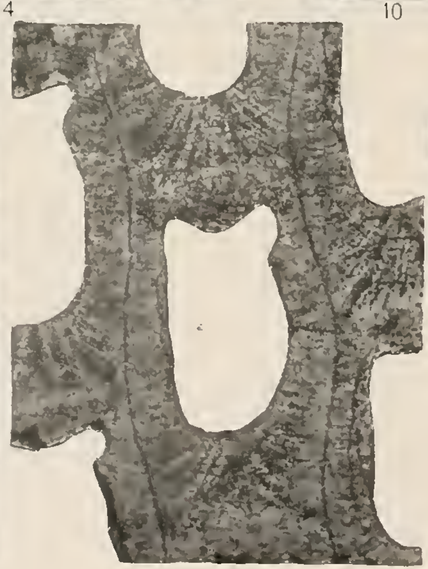
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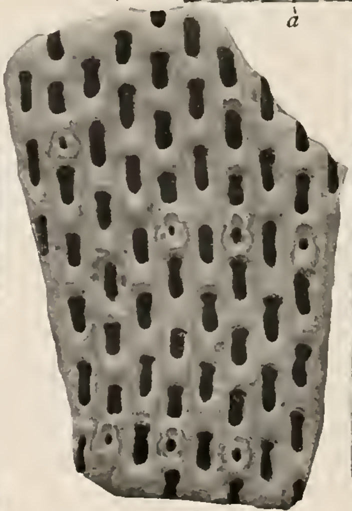
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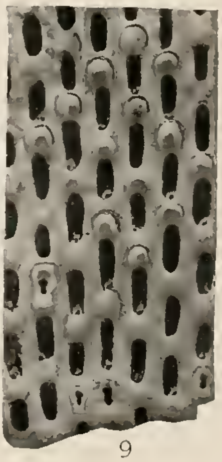
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 24

FIGS. 1–6. *Membrendoecium duplex*, new species (p. 120).

1. The incrusting zoarium, × 20, showing zooecia with distinct mural rims and avicularia.
2. Portion of the incrusting zoarium, × 20, exhibitng zooecia at the bottom with thin and distinct mural rims and the others thick and confluent.

   Upper Jacksonian (Ocala limestone): near Bainbridge, Georgia.

   Cat. No. 63889, U.S.N.M.
3. Surface of zooecia, × 20, exhibiting dietellae on the zooecia with thick mural rims and ovicells.
4. Another zoarium, × 20, with thick walls and ovicells developed

   Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.

   Cat. No. 63890, U.S.N.M.
5. A specimen, × 20, with the surface altered chemically.

   Upper Jacksonian (Ocala limestone): Bainbridge, Georgia.

   Cat. No. 63891, U.S.N.M.
6. An example, × 20, showing thin mural rim and well marked avicularia.

   Lower Jacksonian (Moodys marl): Jackson, Mississippi.

   Cat. No. 63892, U.S.N.M.

FIGS. 7–12. *Periporosella tantilla* Canu and Bassler, 1917 (p. 125).

7. Four fragments of the bilamellar zoarium, natural size.
8. Surface of fragment, × 20, showing the rectangular indistinct zooecia, with broad, flat mural rim and the avicularia.
9. Portion of another zoarium, × 20, with ovicells developed. The opening of the large distal septula is visible at the base of the superior zooecium.
10. The abraded surface, × 20, exhibiting the dietellae arranged entirely around each zooecium.
11. Tangential thin section, × 20, exhibiting the numerous dietellae.
12. Tangential thin section, × 100, passing through the mural rim and exhibiting the radially arranged olocystal elements.

    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

    Cat. No. 62577, U.S.N.M.

FIGS. 13–15. *Grammella crassimarginata* Hincks, 1880 (p. 131).

13. The incrusting zoarium, × 20, well preserved and exhibiting total regeneration of the zooecia manifested by the double rim. Near the base of the figure is a zooecium showing triple regeneration.

    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

    Cat. No. 63893, U.S.N.M
14. The usual aspect of the species, × 20, when avicularia are little developed.
15. The ancestrula (*a*) and surrounding zooecia, × 20.

    Upper Jacksonian (Ocala limestone): 9 miles north of Ocala, Florida.

    Cat. No. 63894, U.S.N.M.

PLATE 25.

FIGS. 1, 2. *Ellisina laxa* Canu and Bassler, 1917 (p. 128).

1. The incrusting zoarium, natural size, growing upon a shell.
2. Surface of the same, × 20, exhibiting the large zooecia, thin mural rim and triangular avicularium. The openings of the dietellae are shown on some of the zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62580, U.S.N.M.

FIG. 3. *Ellisina profunda* MacGillivray, 1895 (p. 129).

Surface of the incrusting zoarium, × 20, referred to this species
Middle Jacksonian: near Lenuds Ferry, South Carolina.
Cat. No. 63895, U.S.N.M.

FIGS. 4–6. *Ellisina brevis*, new species (p. 128).

4. The incrusting zoarium, × 20, with one zooecium exhibiting an ovicell.
5. Another example, × 20, showing the usual characters of the species.

Middle Jacksonian: near Lenuds Ferry, South Carolina.
Cat. No. 63896, U.S.N.M.

6. A specimen, × 20, with some of the zooecia preserving septulae.

Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 63897, U.S.N.M.

FIGS. 7, 8. *Grammella transversa* Canu and Bassler, 1917 (p. 132).

7. Portion of the incrusting zoarium, × 20, with the specific characters, the large transverse avicularium and the opesium bounded by the termen itself of the mural rim, developed.
8. Another example, × 20, in which several of the avicularia are triangular in outline.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62579, U.S.N.M.

FIGS. 9–13. *Grammella pusilla*, new species (p. 132).

9. Two of the incrusting zoaria, natural size.
10. Surface, × 20, preserving the ancestrula.
11. Another zoarium, × 20, exhibiting the avicularium larger than the opesium. The ovicells are broken.
12. An almost entire zoarium, × 20, with ancestrula, ordinary and ovicelled zooecia and avicularia.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 63898, U.S.N.M.

13. A specimen, × 20, with thick mural rims and a calcified zooecium.

Upper Jacksonian (Ocala limestone): 1½ miles above Bainbridge, Georgia.
Cat. No. 63899, U.S.N.M.

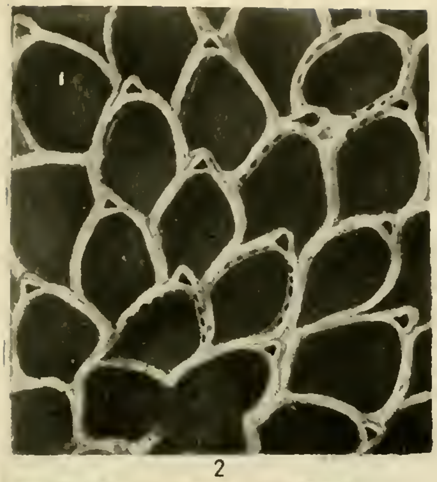
FIGS. 14, 15. *Membraniporidra trigemma*, new species (p. 131).

14. Well preserved surface of the unilamellar zoarium, × 20. The finely granulated mural rim and denticulated opesium are shown. There are three, undeformed primoserial zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63900, U.S.N.M.

15. An example, × 20, with broad zooecia. The ovicell is broken, showing that it is hyperstomial.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 63901, U.S.N.M.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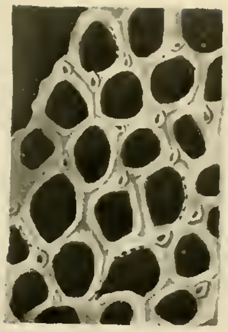
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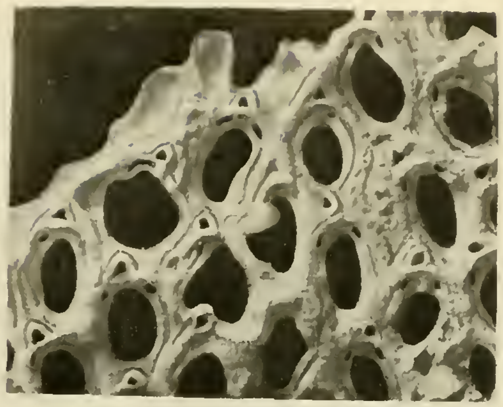
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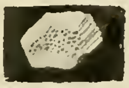
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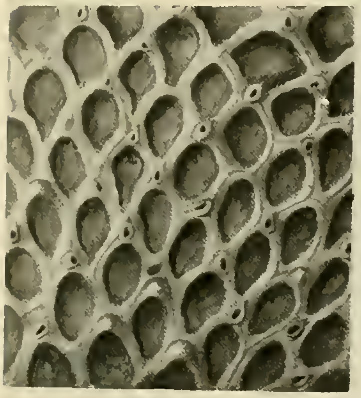
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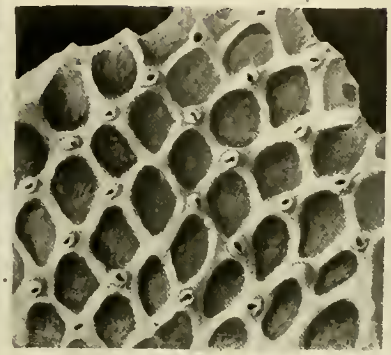
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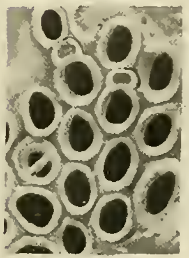
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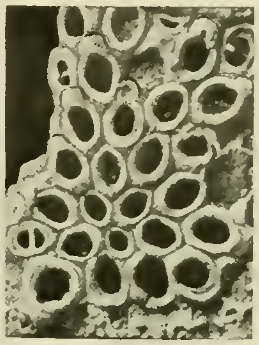
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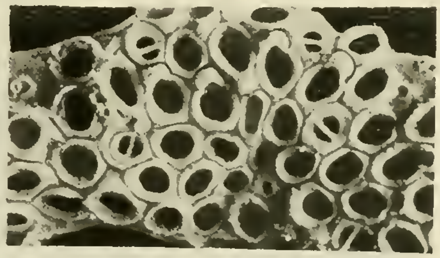
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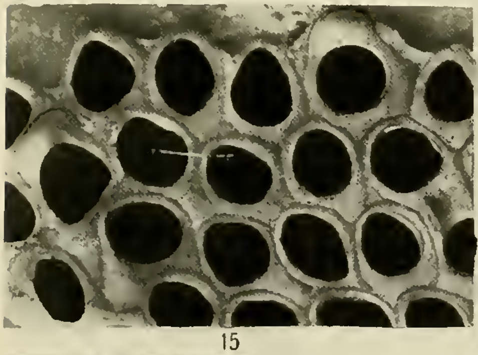
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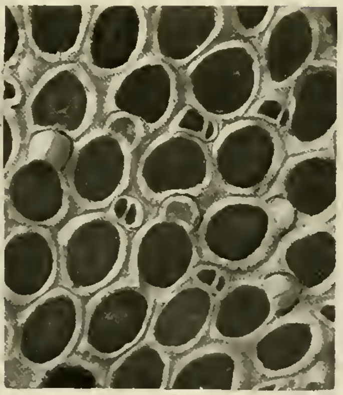
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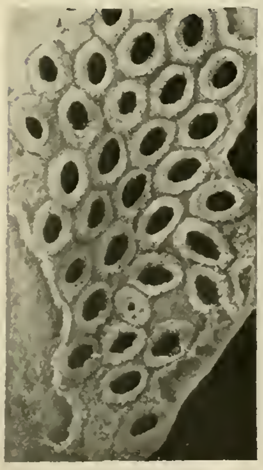
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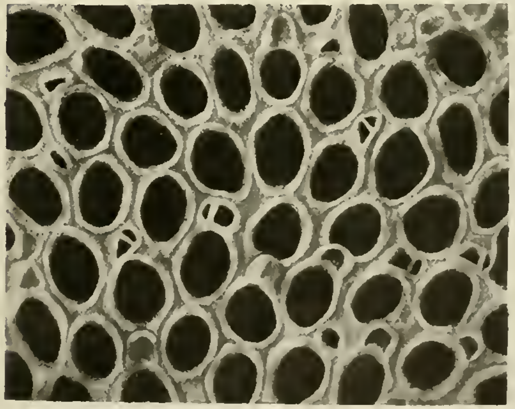
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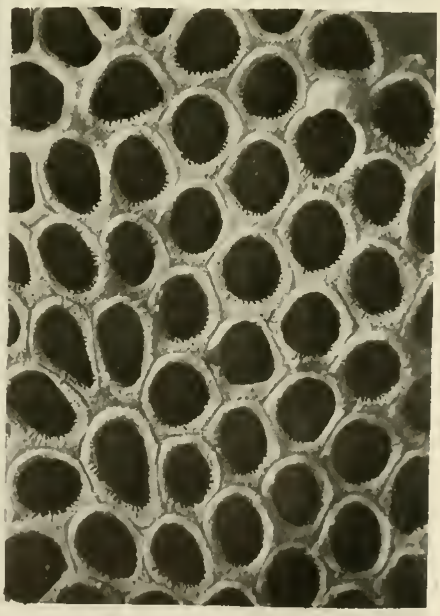
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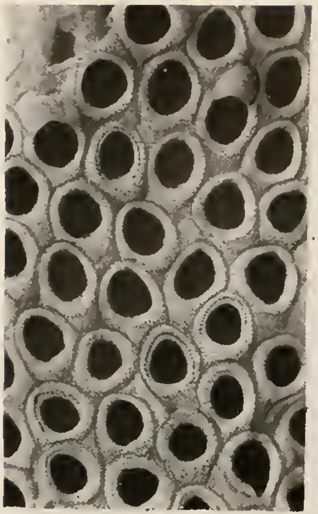
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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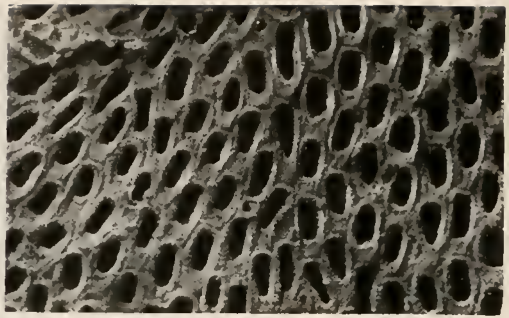
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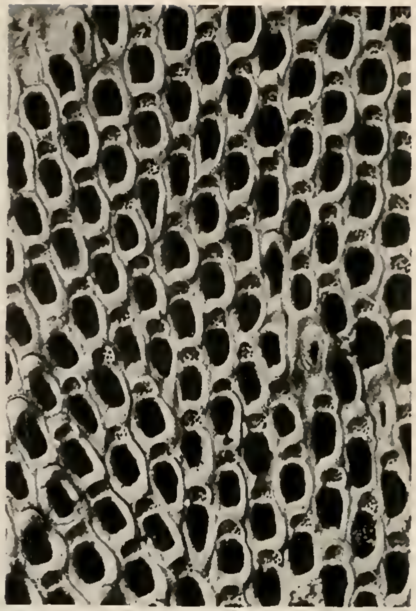
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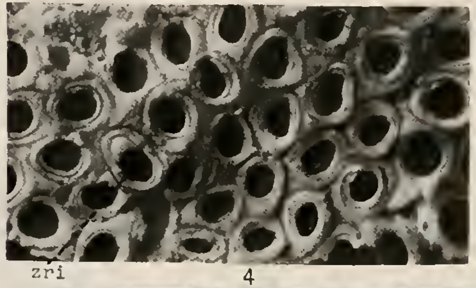

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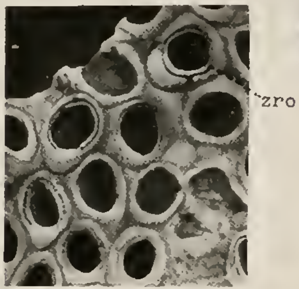

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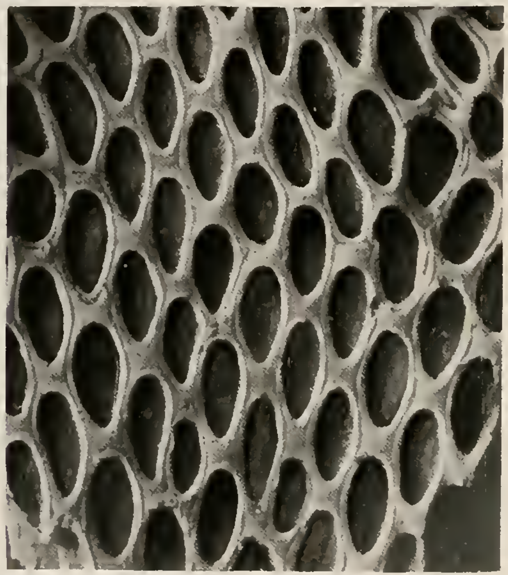
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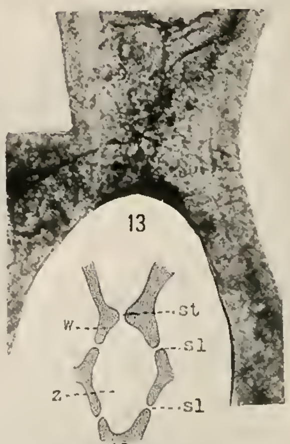

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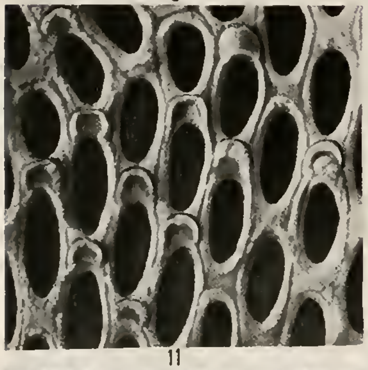
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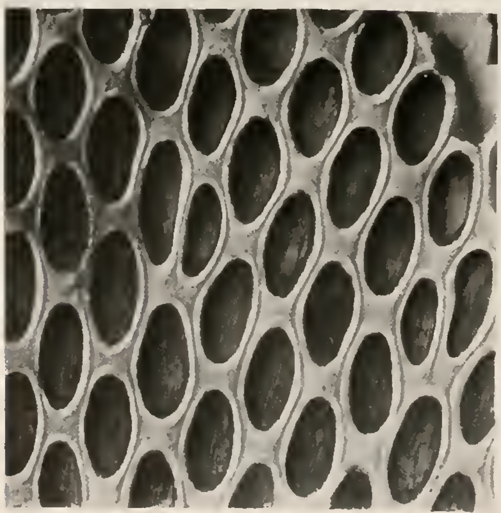
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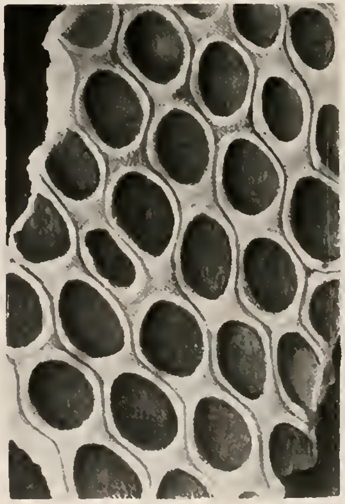
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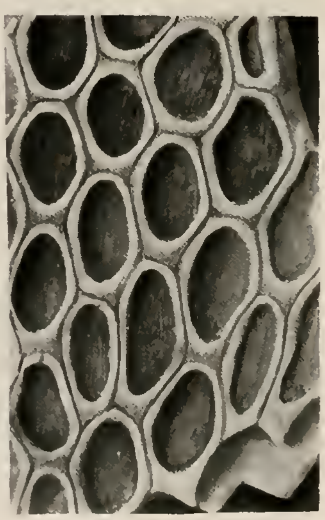
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 26.

FIGS. 1, 2. *Membraniporidra occioporosa*, new species (p. 133).

1. Surface of the incrusting zoarium, × 20, exhibiting the elongated zooecia, without ovicells.
   Lower Jacksonian (Moodys marl): Jackson, Mississippi.
   Cat. No. 63902, U.S.N.M.
2. Zooecia, × 20, with ovicells. The broken ovicells show the finely porous walls. Several calcified zooecia are present.
   Middle Jacksonian: Rich Hill, Crawford County, Georgia.
   Cat. No. 63903, U.S.N.M.

FIGS. 3–5. *Membraniporidra laticella*, new species (p. 135).

3. The incrusting zoarium, × 20. The zooecia have a convex gymnocyst and several of them show total regeneration.
4. Another zoarium, × 20, with numerous cases of regeneration. *zri* represents a regenerated zooecium replacing a normal one inversely.
5. Surface, × 20, illustrating a case of regeneration in which an ovicelled zooecium succeeds a normal one (*zro*).
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 63904, U.S.N.M.

FIGS. 6–13. *Membraniporidra porrecta* Canu and Bassler, 1917 (p. 135).

6. Four fragments of the free, bifoliate zoarium, natural size.
7. Surface of zooecia, × 20, exhibiting both elongate and dwarfed zooecia.
8. Another zoarium, × 20, with the usual characters of the species.
9, 10. Two fragments, × 20, showing variations in the width of the zooecia.
11. A zoarium with ovicelled zooecia, × 20. The separating furrow is replaced in some case by a thread like projection.
12. Sketch of a tangential section through a zooecium, × 20. *sl*, lateral septula; *st*, terminal septula; *w*, zooecial wall; *z*, zooecium.
13. Tangential thin section through the mural rim and the gymnocyst, × 100.
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 62578, U.S.N.M.

PLATE 27.

FIGS. 1–19. *Membraniporidra spissimuralis*, new species (p. 136). (See also pl. 28, figs. 1–7.)

1, 2. Surface of the bifoliate zoarium, × 20, showing the most perfect, but less common form of the species.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63905, U.S.N.M.

3. Zooecia, × 20, one with smooth ovicell.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 63906, U.S.N.M.

4. Zooecia, × 20, with the cryptocyst lacking the lateral groove.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63905, U.S.N.M.

5. Zooecia, × 20, exhibiting a concave cryptocyst.
Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 63907, U.S.N.M.

6. Zooecia, × 20, with convex cryptocyst.

7. The same variation as figure 6, × 20, with ovicells.
Middle Jacksonian: 3¼ miles south of Perry, Georgia.
Cat. No. 63908, U.S.N.M.

8. Surface of a zoarium, × 20, in which the cryptocyst is wanting and the lateral denticles are developed.
Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 63907, U.S.N.M.

9. A fragment, × 20, with most of the zooecia supplied with ovicells.

10. Aspect of a weathered zoarium, × 20.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 63906, U.S.N.M.

11. An example, × 20, showing zooecia with thin mural rim.

12. Fragment, × 20, with the ovicells exhibiting the callosity developed in the Vicksburgian specimens.

13. Young zooecia, × 20, with denticles developed.
Vicksburgian (Glendon member of Marianna limestone): West bank Conecuh River, Escambia County, Alabama.
Cat. No. 63909, U.S.N.M.

14. An example, × 20, with monstrous zooecia and a regenerated zooecium.
Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 63907, U.S.N.M.

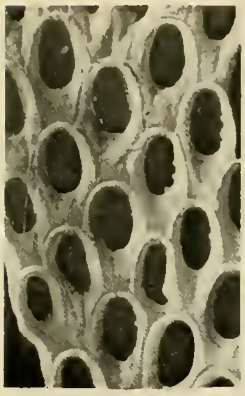
15. A fragment, × 20, with a zooecium giving rise to five primoserial zooecia.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 63906, U.S.N.M.

16. Surface, × 20, with the granulations of the mural rim enlarged by chemical action. The ovicell is ornamented with a frontal callosity.
Vicksburgian (Marianna limestone): near Claiborne, Monroe County, Alabama.
Cat. No. 63910, U.S.N.M.

17. A variation of the Vicksburgian variety, × 20, showing the frontal callosity of the ovicell.

18. Another aspect of the zoarium, × 20, with very large lateral opesial denticles.
Vicksburgian (Marianna limestone): Salt Mountain, five miles south of Jackson, Alabama.
Cat. No. 63911, U.S.N.M.

19. Dorsal side of a unilamellar zoarium, × 20.
Vicksburgian (Glendon member of Marianna limestone): West bank, Conecuh River, Escambia County, Alabama.
Cat. No. 63909, U.S.N.M.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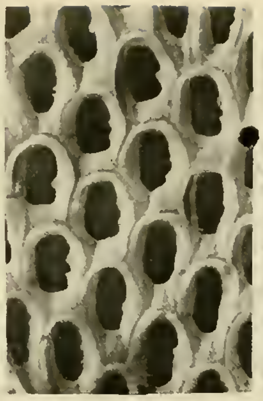
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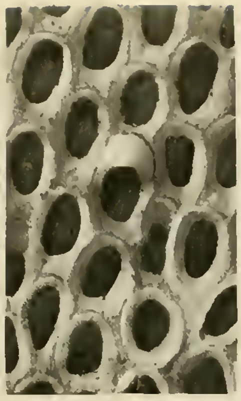
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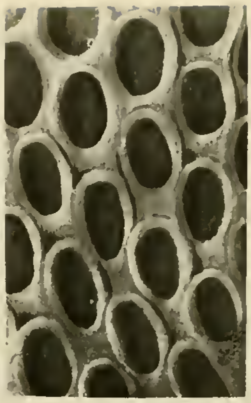
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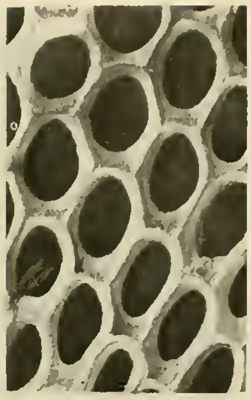
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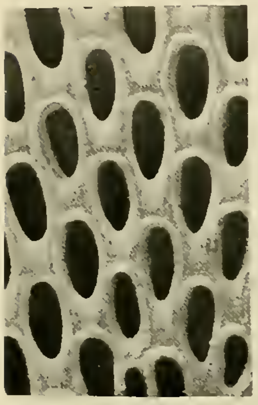
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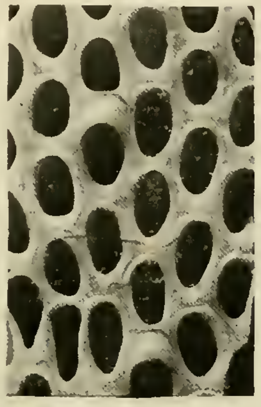
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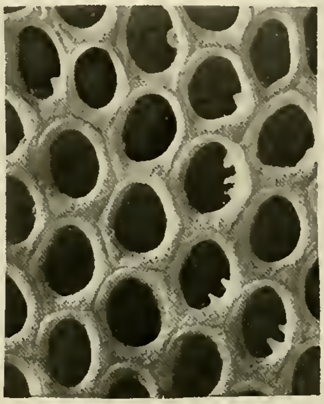
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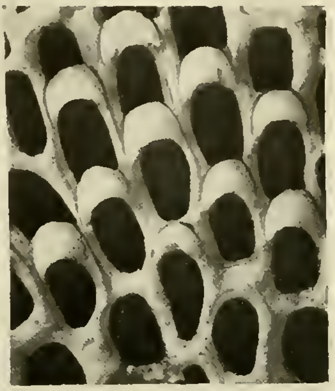
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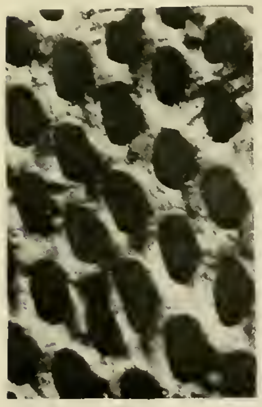
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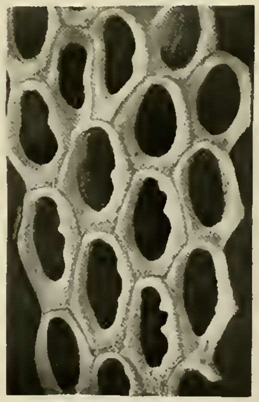
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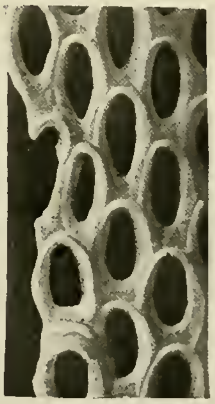
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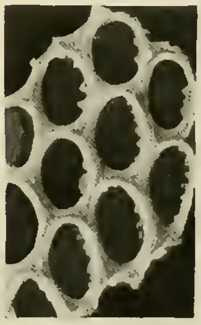
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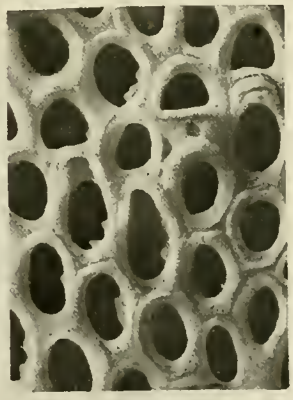
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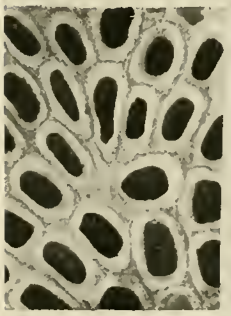
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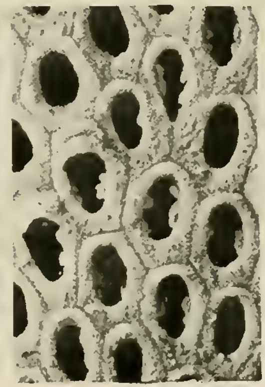
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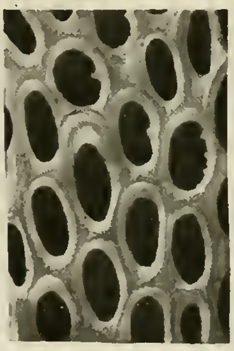
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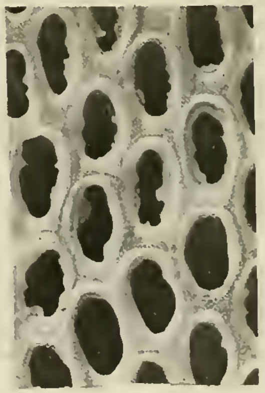
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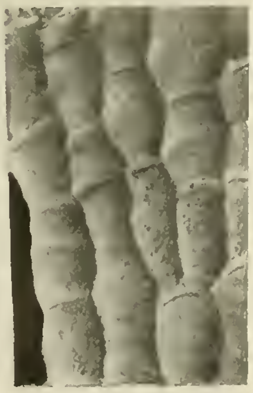
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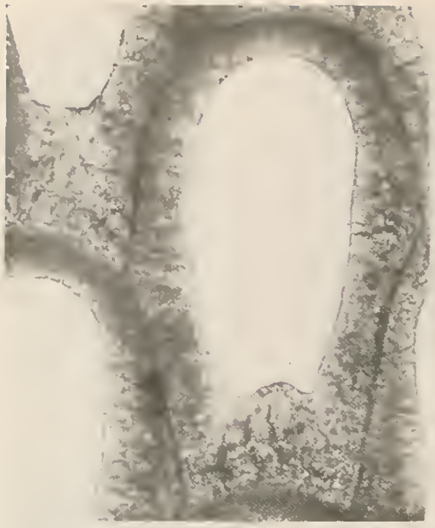
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.



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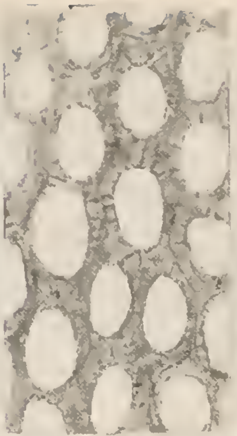

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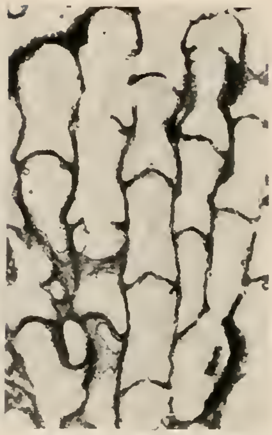

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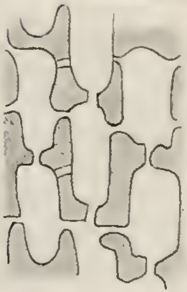

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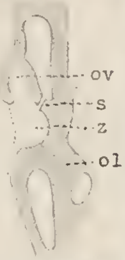

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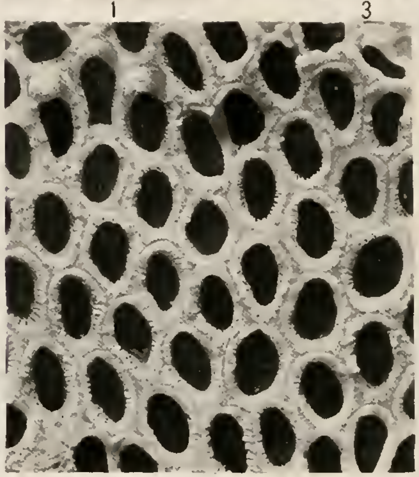

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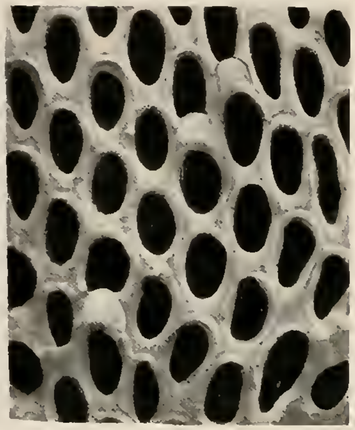

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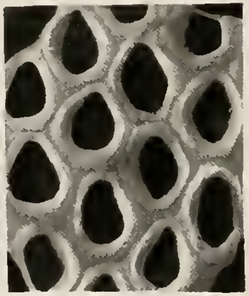

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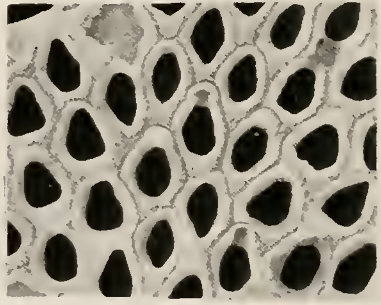

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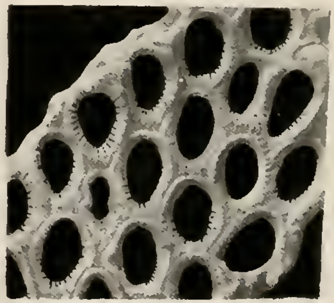

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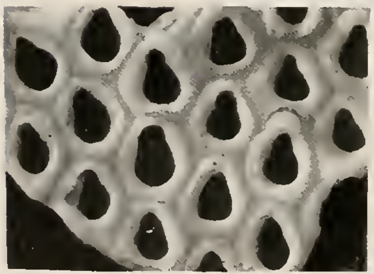

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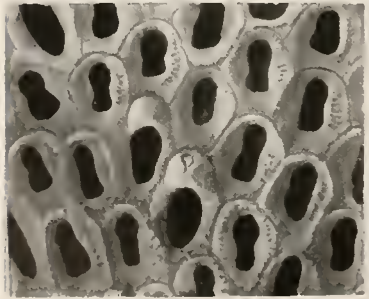

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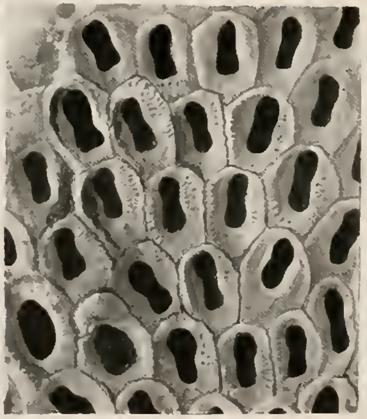

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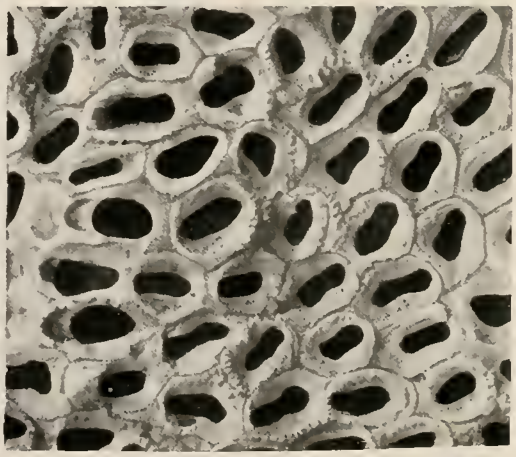

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Jacksonian Cheilostomatous Bryozoa.

PLATE 28.

FIGS. 1–7. *Membraniporidra spissimuralis*, new species (p. 136). (See also pl. 27.)
1. Tangential thin section, × 20.
2. A portion of the same, × 100, showing the mural rim and cryptocyst formed of an olocyst with elements grouped in radial lines.
3. Tangential thin section of the dorsal wall, × 100, formed of an olocyst with scattered elements.
4. Tangential thin section, × 20, exhibiting the thin zooecial wall.
5. Sketch of tangential section, × 20, through thick zooecial walls, showing lateral and distal septulae.
6. Sketch of vertical section, × 20, through an ovicelled zooecium. *ol*, olocyst; *or*, ovicell; *s*, septula; *z*, zooecium.
7. Fragments of the bifoliate zoarium, natural size.

Vicksburgian (Marianna limestone): Salt Mountain, five miles south of Jackson, Alabama.
Cat. No. 63911, U.S.N.M.

FIGS. 8–10. *Membraniporidra similis*, new species (p. 137).
8. Surface of the incrusting zoarium, × 20, showing the finely granular mural rim and the crenulated opesium.

Upper Jacksonian (Ocala limestone): Old Factory, near Bainbridge, Georgia.
Cat. No. 63912, U.S.N.M.

9. Another example, × 20, with several zooecia preserving ovicells.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 63913, U.S.N.M.

10. Surface of a small fragment, × 20. An interzooecial avicularium is shown and the crenulations of the opesium are well marked.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63914, U.S.N.M.

FIGS. 11–13. *Membraniporidra pyriformis*, new species (p. 138).
11. A small fragment of the incrusting zoarium, × 20. The pyriform shape of the opesium and the small ovicell are to be observed.
12. Another small fragment, × 20, exhibiting the thick walls of the mural rim.

Upper Jacksonian (Ocala limestone): Chipola River east of Marianna, Florida.
Cat. No. 63915, U.S.N.M.

13. Surface, × 20, slightly altered by fossilization.

Upper Jacksonian (Ocala limestone): Bainbridge, Georgia.
Cat. No. 63916, U.S.N.M.

FIGS. 14–17. *Membraniporidra pachymuralis*, new species (p. 134).
14. The type-specimen, natural size, incrusting a Pecten.
15. A portion of the type, × 20, with several ovicelled zooecia. The two component layers of the ovicell are visible.
16. More regular zooecia of the same zoarium, × 20. The very wide mural rim with radially arranged granules may be noted.
17. Another portion of the type, × 20, with zooecia irregularly arranged.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63917, U.S.N.M.

PLATE 29.

FIG. 1. *Alderina pulcherrima*, new species (p. 144).
Surface of this beautiful unilamellar species, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63918, U.S.N.M.

FIG. 2. *Callopora aurita* Hincks, 1877 (p. 152).
A small tubular zoarium, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63919, U.S.N.M.

FIG. 3. *Callopora ingens*, new species (p. 150).
The incrusting type example, × 20.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63920, U.S.N.M.

FIG. 4. *Callopora filoparietis*, new species (p. 150).
A portion of the incrusting type-specimen, × 20; the thin walls and the very pointed avicularia are quite visible.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63921, U.S.N.M.

FIG. 5. *Alderina lunata*, new species (p. 144).
The incrusting type-specimen, × 20. The lunate form of the frontal area of the ovicell is characteristic.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63922, U.S.N.M.

FIG. 6. *Callopora dumerilii lata*, new variety (p. 149).
The incrusting type-specimen of this new variety, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63923, U.S.N.M.

FIG. 7. *Alderina crassa*, new species (p. 145).
Portion of the incrusting type, × 20. Several zooecia exhibit broken ovicells, while others show a double and even a triple mural rim resulting from regeneration.
Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 63924, U.S.N.M.

FIG. 8. *Callopora convexa*, new species (p. 150).
The small unilamellar type, × 20. The very convex form of the zooecia and the gymnocyst are characteristic.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63925, U.S.N.M.

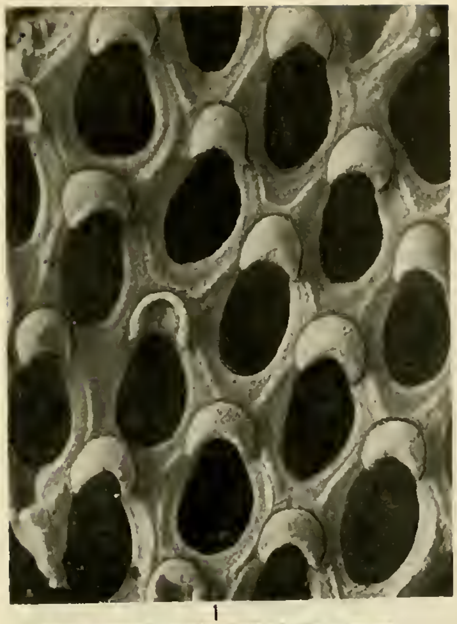
FIG. 9. *Callopora crassospina*, new species (p. 150).
The incrusting type-specimen, × 20, exhibiting the spines of the mural rim and the large transversal avicularium.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63926, U.S.N.M.

FIGS. 10–11. *Callopora tenuirostris* Hincks, 1880 (p. 154).
10. The incrusting zoarium, × 20, with numerous ovicelled zooecia showing the frontal callosity and with the characteristic pointed avicularia.
11. Another zoarium, × 20, representing the aspect in the vicinity of the ancestrula.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63927, U.S.N.M.

FIG. 12. *Callopora mundula*, new species (p. 156).
Surface of the free bilamellar zoarium, × 20. The large frontal avicularia and the ovicells, although broken, are prominent features.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63928, U.S.N.M.

FIGS. 13, 14. *Amphiblestrum biporosum*, new species (p. 159).
13. A part of the incrusting type zoarium, × 20. The round avicularia and the trifoliate opesium are characteristic.
14. Another portion of the type, × 20, exhibiting slight differences.
Middle Jacksonian; near Lenuds Ferry, South Carolina.
Cat. No. 63929, U.S.N.M.

FIG. 15. *Amphiblestrum flammeum*, new species (p. 160).
Surface of the incrusting type-specimen, × 20. The elongate avicularia are quite characteristic.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63930, U.S.N.M.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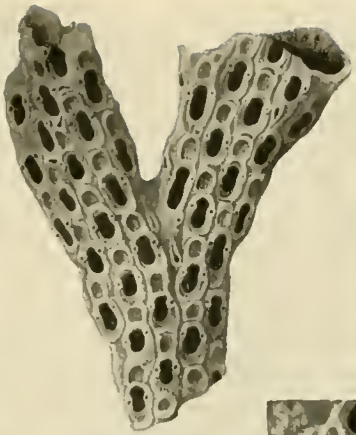
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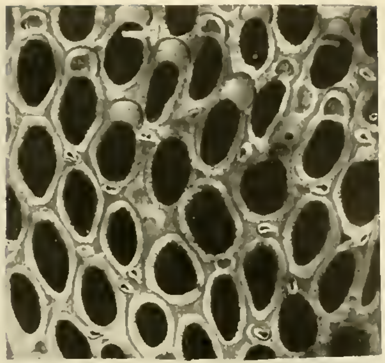
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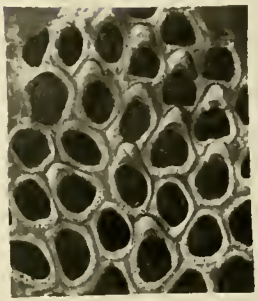
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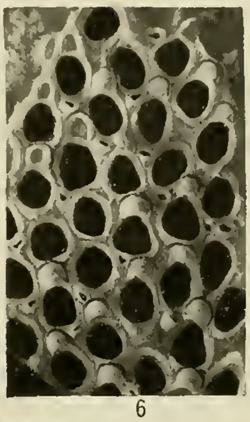
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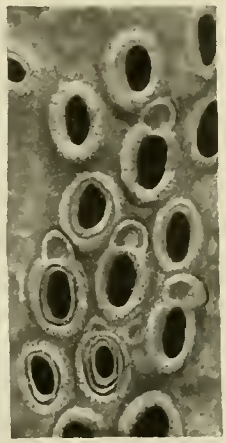
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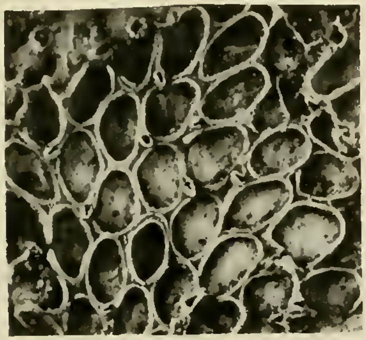
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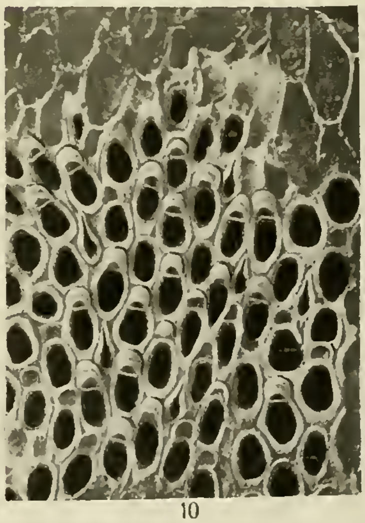
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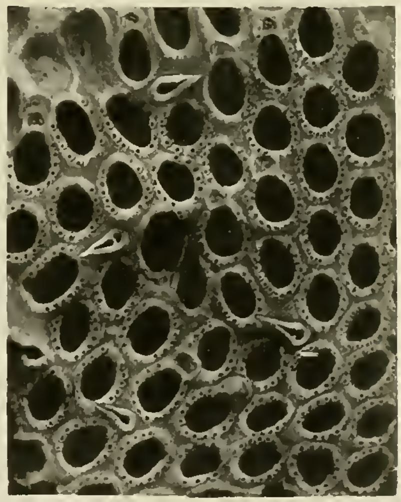
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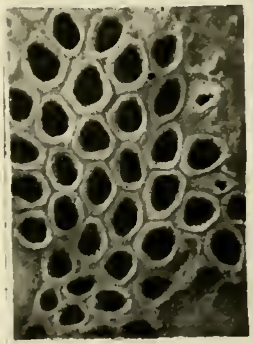
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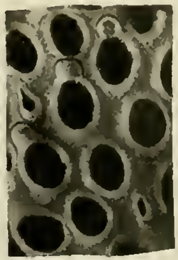
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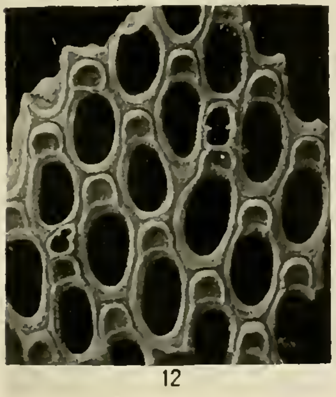
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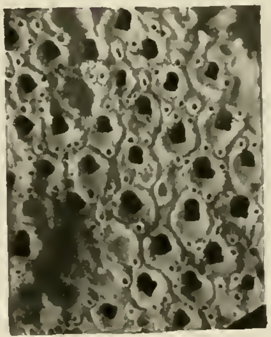
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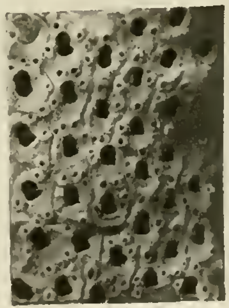
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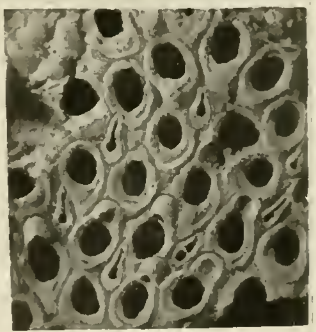
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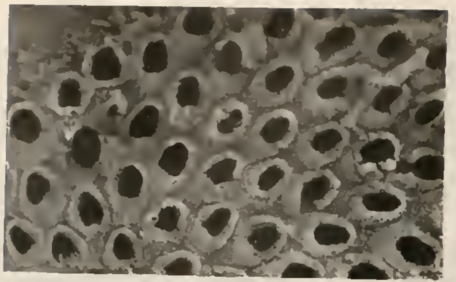
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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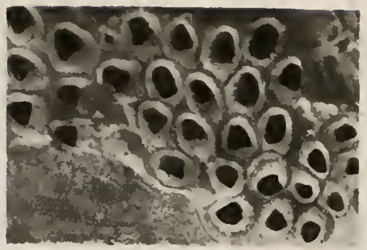
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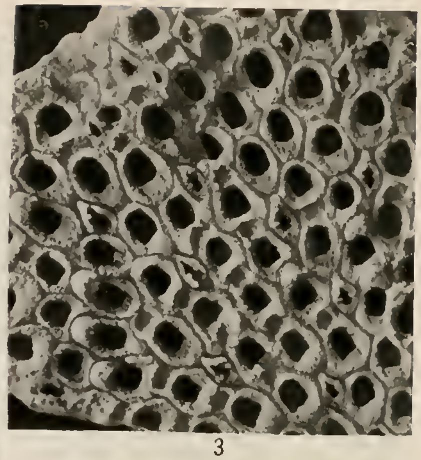
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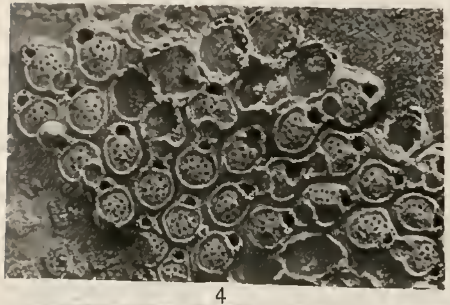
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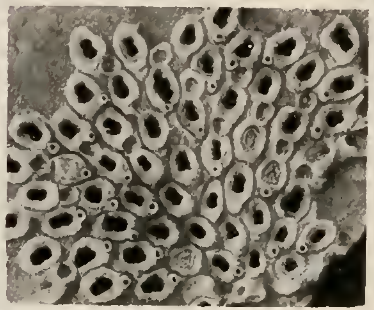
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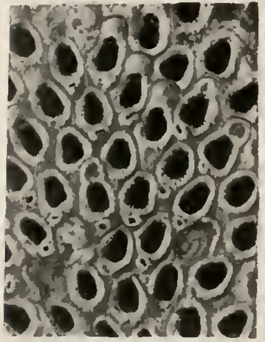
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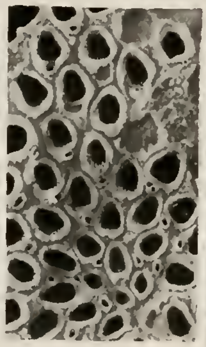
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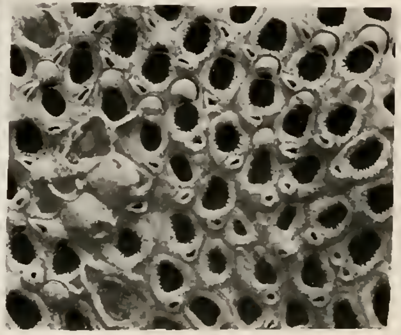
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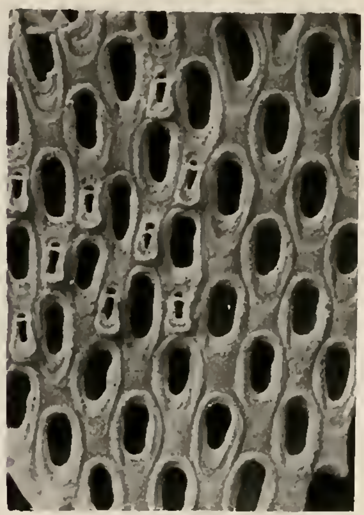
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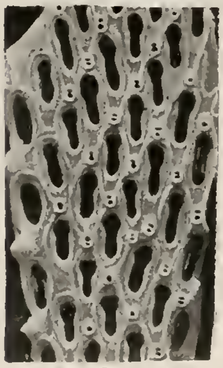
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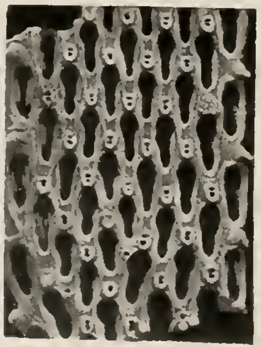
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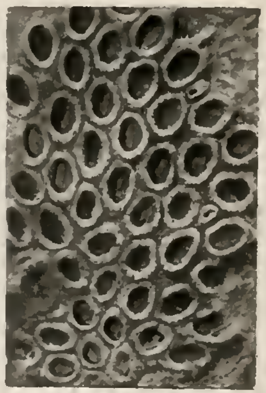
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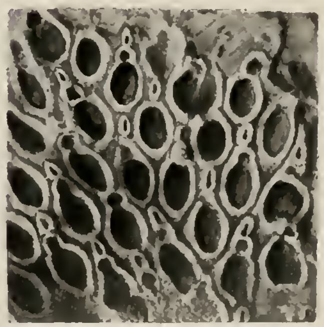
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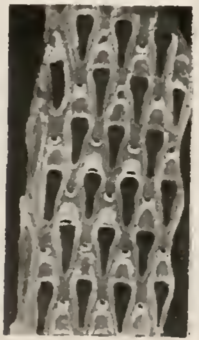
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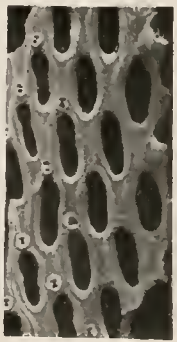
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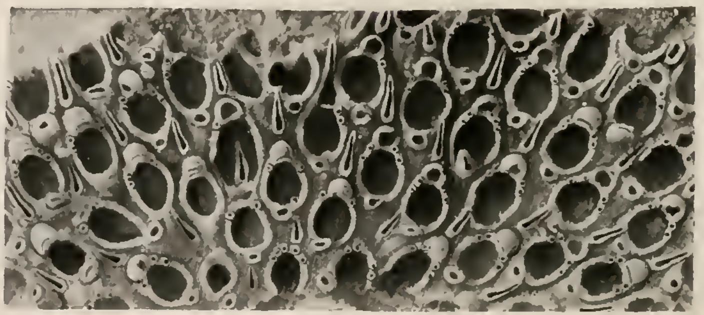
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 30.

FIGS. 1–3. *Amphiblestrum patens*, new species (p. 160).

1. An incrusting zoarium, × 20, preserving many ovicells and avicularia.
2. A specimen, × 20, showing region of the ancestrula.
3. Another example, × 20, in which chemical alteration of the surface has occurred.

Upper Jacksonian (Ocala limestone): Old Factory, near Bainbridge, Georgia.
Cat. No. 63931, U.S.N.M.

FIG. 4. *Amphiblestrum orbiculatum*, new species (p. 161).

The incrusting type-specimen of this unusual species. × 20.

Upper Jacksonian (Ocala limestone): Old Factory, near Bainbridge, Georgia.
Cat. No. 63932, U.S.N.M.

FIG. 5. *Ramphonotus baccatus*, new species (p. 165).

The incrusting type-specimen, × 20, showing area about ancestrula.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63933, U.S.N.M.

FIGS. 6–8. *Ramphonotus regularis*, new species (p. 165).

6. The usual aspect of this incrusting species, × 20.
7. Region of the ancestrula, × 20, of the same specimen.
8. Another zoarium, × 20. The avicularia are unusually large

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63934, U.S.N.M.

FIGS. 9, 10. *Tegella nicklesi*, new species (p. 167).

9. Area of the ancestrula of the incrusting zoarium, × 20, where the zooecia lack the distal avicularium.
10. The normal aspect of this incrusting species, × 20. The characteristic elongated avicularium surmounting the ovicell is plainly visible.

Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 63935, U.S.N.M.

FIG. 11. *Tegella aculeata*, new species (p. 166).

The incrusting type-specimen, × 20. The structure of the zooecia, ovicells, and avicularia is well exhibited.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63936, U.S.N.M.

FIG. 12. *Stamenocella anatina*, new species (p. 169).

Surface of the free bilamellar zoarium, × 20, exhibiting the duckbill-like avicularia.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63937, U.S.N.M.

FIGS. 13–16. *Stamenocella pyriformis*, new species (p. 170).

13. Fragment of the bilamellar zoarium, × 20, showing lateral zooecia with an elliptical opesium.
14. A broader zoarium, × 20, exhibiting pyriform opesia in the center and elliptical opesia along the sides. The lateral zooecia bear prominent claw-like avicularia.
15. A narrow zoarium, × 20, with ovicelled zooecia.
16. Another specimen, × 20, showing a slightly different aspect of the species.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63938, U.S.N.M.

PLATE 31.

FIGS. 1–5. *Stamenocella mediaviculifera* Canu and Bassler, 1917 (p. 171).

1. Portion of the bilamellar zoarium, × 20, showing four punctations at the base of the gymnocyst.
2. A worn example, × 20.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 63939, U.S.N.M.

3. Surface of a fragment, × 20, preserving both avicularia and ovicells, the latter invariably broken.
4. A fragment, × 20, without ovicells or avicularia.

Middle Jacksonian: 3½ miles south of Perry, Georgia.
Cat. No. 62581, U.S.N.M.

5. A broad specimen, × 20, with surface abraded, doubtfully referred to this species.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 63940, U.S.N.M.

FIGS. 6–15. *Stamenocella inferaviculifera*, new species (p. 172).

6. A broad example of the bilamellar zoarium × 20. The ovicell and avicularium are developed on many of the zooecia.

Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 63941, U.S.N.M.

7. A small example, × 20.
8. Surface of a fragment, × 20, with avicularia and ovicells developed, the latter broken.

Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
Cat. No. 63942, U.S.N.M.

9. Fragmentary zoarium, × 20.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 63943, U.S.N.M.

10. Surface of a zoarium, × 20, showing the avicularium crowded close to the following opesium by the ovicell.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63944, U.S.N.M.

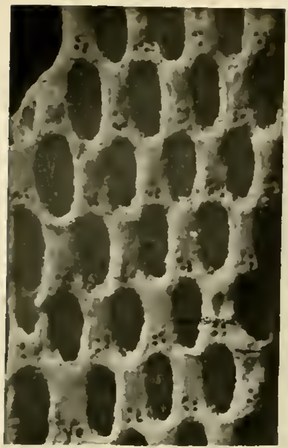
11. A broad zoarium, × 20, exhibiting a variation of the species.
12. Normally arranged zooecia, × 20, with small avicularia.
13. Another specimen, × 20, in which the avicularia are replaced by punctations.
14. A well developed specimen, × 20.
15. Group of zoaria, natural size.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 63945, U.S.N.M.

FIG. 16. *Stamenocella grandis*, new species (p. 173).

The type example of this bilamellar species, × 20, showing the unusually large zooecia.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 63946, U.S.N.M.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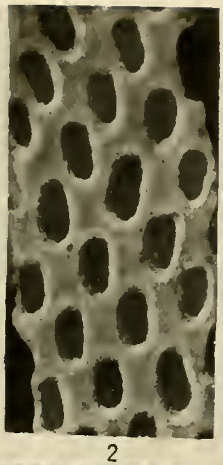
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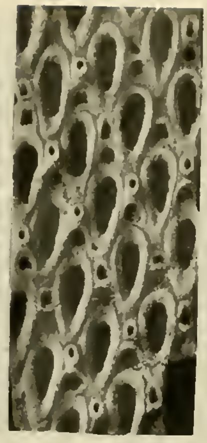
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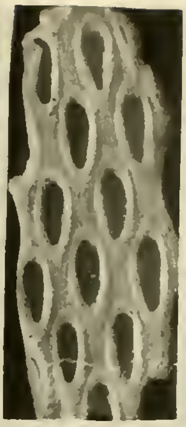
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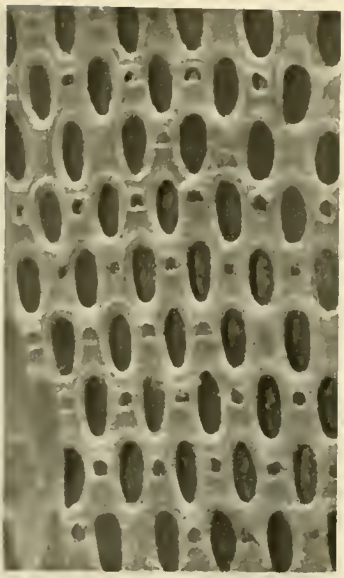
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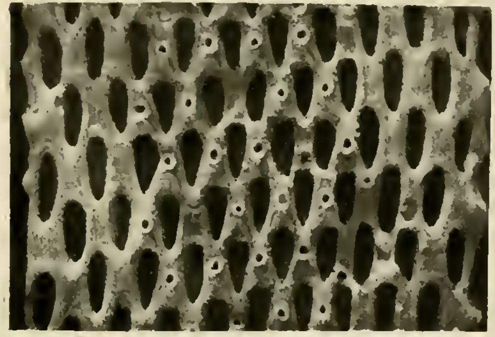
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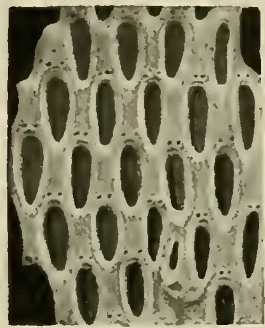
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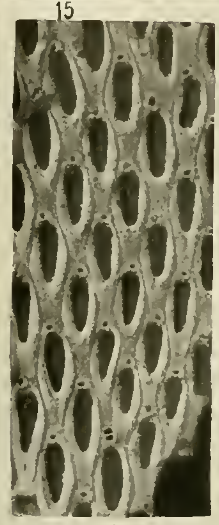
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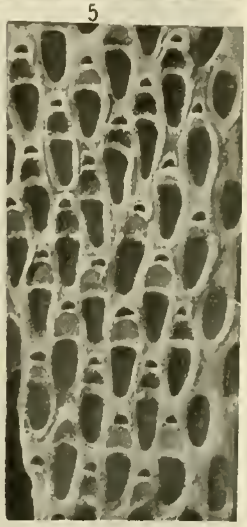
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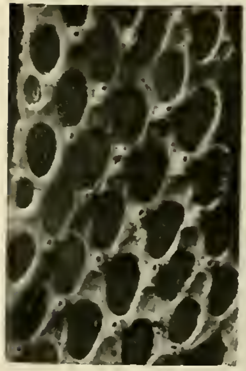
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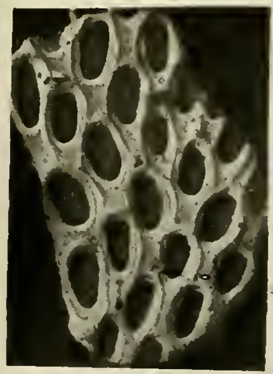
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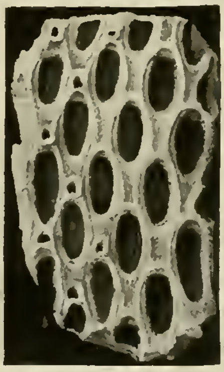
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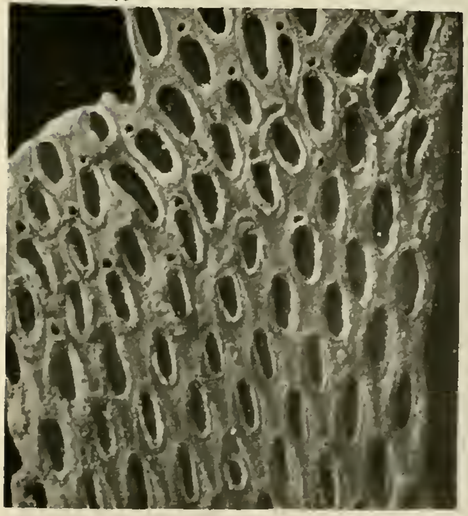
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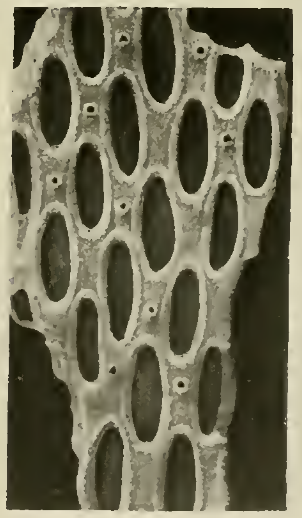
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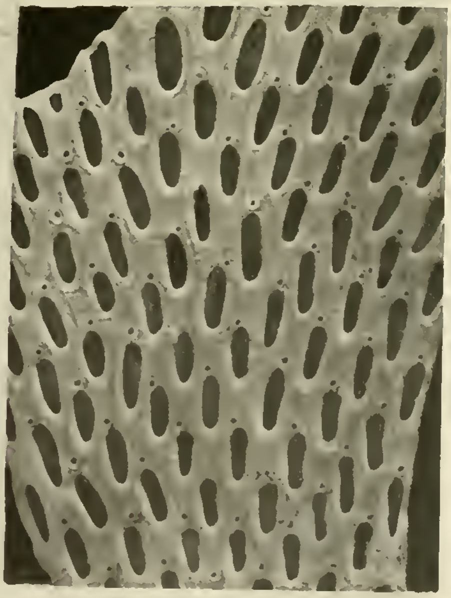
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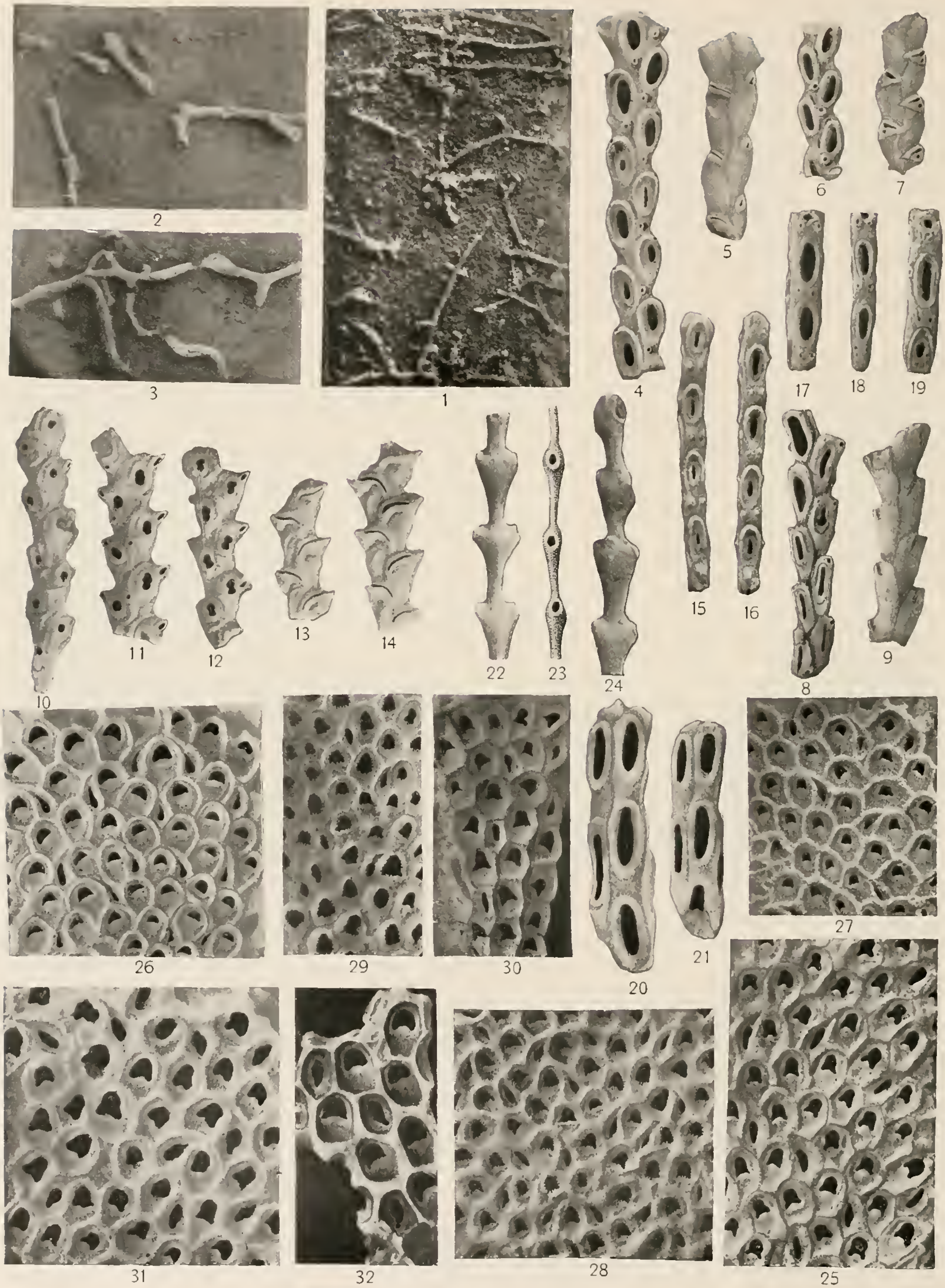
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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Jacksonian Cheilostomatous Bryozoa.

PLATE 32.

FIG. 1. *Actea truncata* Lansborough, 1852 (p. 180).
The Eocene specimen compared with this recent species, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63947, U.S.N.M.
FIGS. 2, 3. *Actea anguina* Linneaus (p. 179).
2. The creeping portion of the zooecia, × 20.
Upper Jacksonian (Ocala limestone): Bainbridge, Georgia.
Cat. No. 63948, U.S.N.M.
3. Another example, × 20.
Upper Jacksonian (Ocala limestone): Ocala, Florida.
Cat. No. 63949, U.S.N.M.
FIGS. 4–7. *Scrupocellaria elliptica* Reuss, 1869 (p. 184).
4. Frontal view of an almost complete segment, × 25.
5. Dorsal side of another example, × 25, exhibiting the dorsal vibracula.
Middle Jacksonian (Castle Hayne limestone). Wilmington, North Carolina.
Cat. No. 63950, U.S.N.M.
6, 7. Frontal and dorsal sides of two fragments, × 25. On the dorsal a radicular pore is shown in addition to the vibraculum.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63951, U.S.N.M.
FIGS. 8, 9. *Scrupocellaria gracilis* Reuss, 1869 (p. 185).
8. Portion of a segment, × 25, with zooecia at its base that have undergone total regeneration.
9. Dorsal side of another segment, × 25. The vibraculum is directed longitudinally.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63952, U.S.N.M.
FIGS. 10–14. *Scrupocellaria dubia*, new species (p. 190).
10, 12. Frontal side of three segments, × 25. The zooecia seem to be regenerated.
13, 14. Dorsal side of two segments, × 25.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63953, U.S.N.M.
FIGS. 15–19. *Neltia bifaciata*, new species (p. 197).
15, 16. Two incomplete segments, × 25, showing ordinary zooecia changed into radicular ones.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63954, U.S.N.M.
17, 18, 19. Three fragmentary segments, × 25. In figure 17 the broad zooecia of the zoarium are shown, while the narrow zooecia are illustrated in figure 18.
Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 63955, U.S.N.M.
FIGS. 20–21. *Nellia concatenata* Canu, 1907 (p. 197).
20, 21. Two examples, × 25, of this large celled species.
Middle Jacksonian: One-half mile southeast of Georgia Kaolin Co. Mine. Twiggs County, Georgia.
Cat. No. 63956, U.S.N.M.
FIGS. 22–24. *Gemellaria prima* Reuss, 1866 (p. 200).
Front, side and dorsal view, × 25, of this unique species.
Jacksonian (Zeuglodon zone): Cocoa post office, Choctaw County, Alabama.
Cat. No. 63957, U.S.N.M.
FIG. 25. *Onychocella celsa*, new species (p. 207).
The incrusting type-specimen, × 20, showing the elongated opesium.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63958, U.S.N.M.
FIGS. 26, 27. *Onychocella laciniosa*, new species (p. 207).
26. The incrusting zoarium, × 20, illustrating differences in size between marginal and ordinary zooecia and onychocellaria.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63959, U.S.N.M.
27. Ordinary zooecia and onychocellaria, × 20, showing the opesiular indentations.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63960, U.S.N.M.
FIGS. 28–30. *Onychocella dupliciter*, new species (p. 208).
28. The incrusting zoarium, × 20, illustrating zooecia of similar size but with large and small sized opesia.
Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 63961, U.S.N.M.
29. Another zoarium, × 20, showing the duplex character of the opesia very well.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 63962, U.S.N.M.
30. Zooecia, × 20, with opesiular indentation better developed than usual.
Upper Jacksonian (Ocala limestone): West bank of Sepulga River, Escambia County, Alabama.
Cat. No. 63963, U.S.N.M.
FIGS. 31, 32. *Onychocella angulosa* Reuss, 1847 (p. 205).
31. Incrusting zoarium, × 20, of this widespread species.
32. View of the interior of the frontal, × 20. The opesium of the onychocellarium has a small proximal sinus.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63964, U.S.N.M.

PLATE 33.

FIGS. 1–3. *Rectonychocella bilamellaria*, new species (p. 210).

1. The free, bilamellar zoarium, × 20. showing the general symmetry of the zooecia and onychocellaria.
2. A narrow zoarium, × 20. with long zooecia.
3. An example, × 20. with broader zooecia and more distinct polypidian convexity.

Upper Jacksonian (Ocala limestone): West bank of Sepulga River, Escambia County, Alabama.
Cat. No. 63966, U.S.N.M.

FIGS. 4–6. *Rectonychocella tenuis*, new species (p. 211).

4. The incrusting zoarium, × 20. with one ovicelled zooecium (at the top of the figure).

Jacksonian (Zeuglodon zone): Cocoa post office, Choctaw County, South Carolina.
Cat. No. 63967, U.S.N.M.

5. The surface of zoarium. × 20, showing zooecia without a polypidian convexity and onychocellaria with the point of the opesium directed to the top. The mural rim surrounding the zooecia is very thin.
6. Zooecia, × 20, in the region of the ancestrula.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63968, U.S.N.M.

FIGS. 7, 8. *Rectonychocella elliptica*, new species (p. 212).

7. Surface of the incrusting zoarium, × 20, showing a calcified zooecium.

Upper Jacksonian (Ocala limestone): Bainbridge, Georgia.
Cat. No. 63969, U.S.N.M.

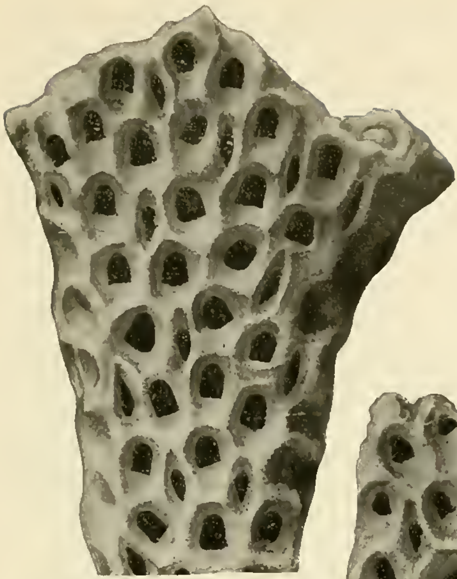
8. Another example, × 20, illustrating the characters of the species, especially the fusion of the distal canal of the onychocellarium with the cryptocyst of the distal zooecium.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 63970, U.S.N.M.

FIGS. 9–13. *Rectonychocella semiluna*, new species (p. 210).

9. Under side of the free unilamellar zoarium, × 20, exhibiting irregular, convex zooecia.
10. View of the interior of the frontal, × 20. The great length of the onychocellarian opesia is shown.
11. Surface of zoarium, × 20. The large opesium of the onychocellarium (*on*), characterizing the species, is visible.
12. Tangential thin section of the zooecial walls, × 20, showing their vacuolar olocyst structure. The large size of the onychocellaria is also evident.
13. Another zoarium, × 20, exhibiting zoaria with wider and also narrow opesia, due to different stages in calcification.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63971, U.S.N.M.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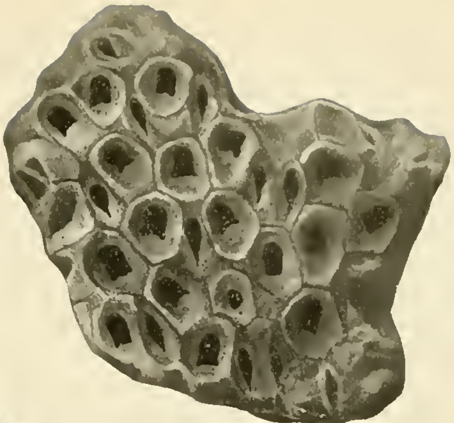
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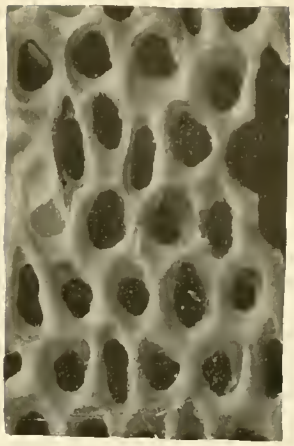
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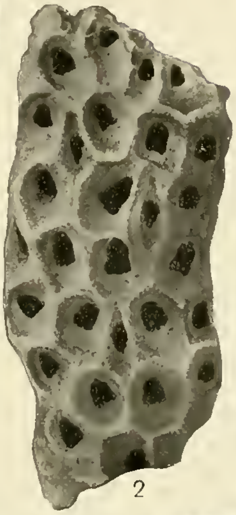
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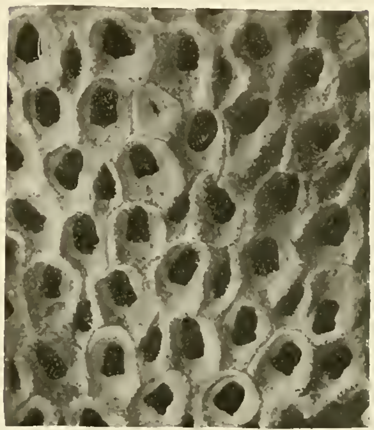
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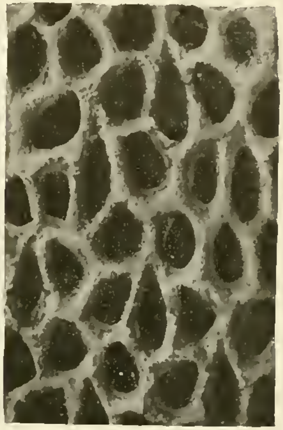
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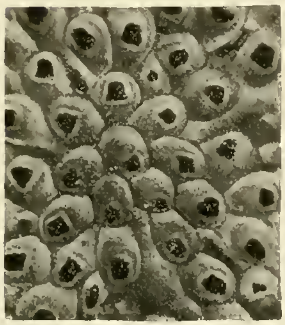
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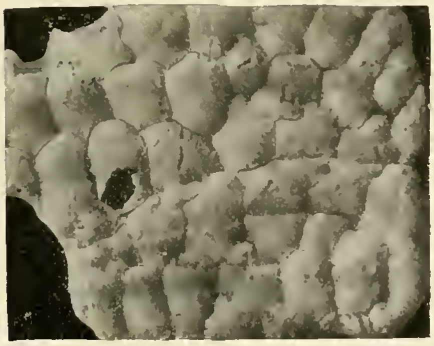
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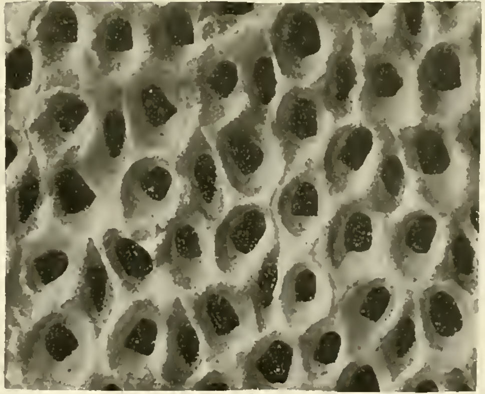
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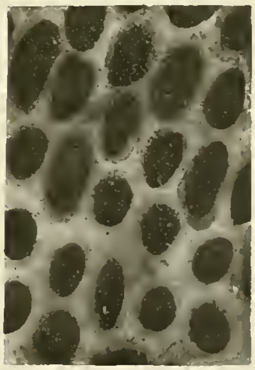
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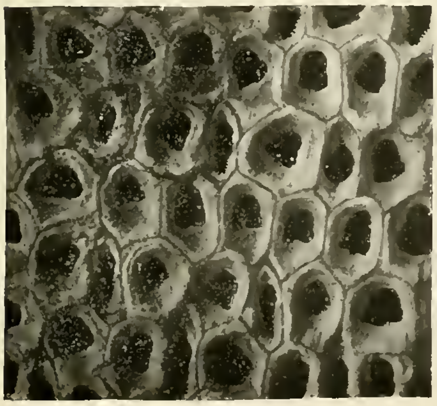
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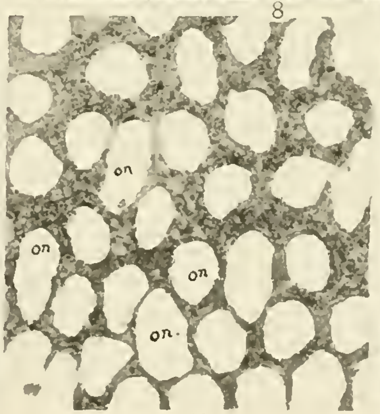

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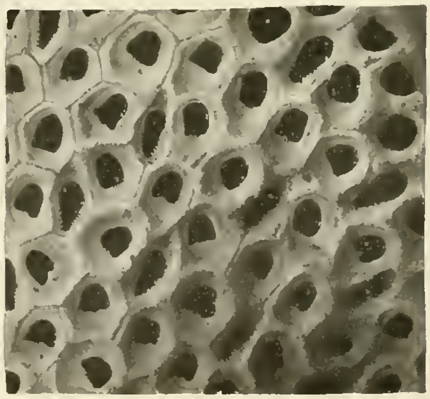
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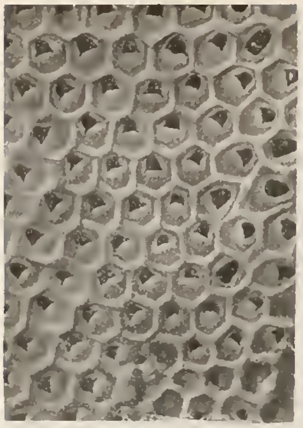
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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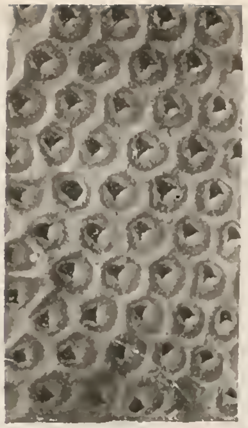
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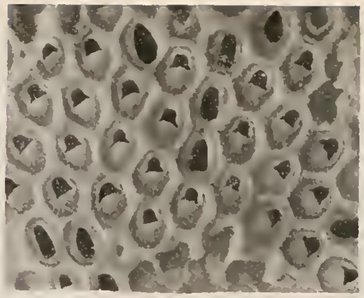
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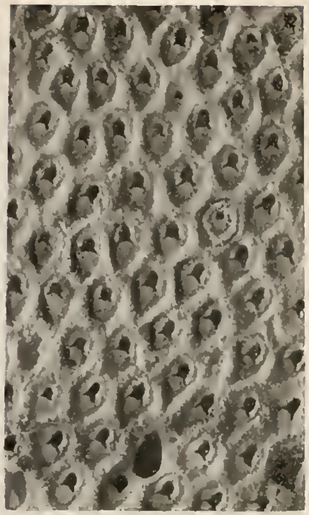
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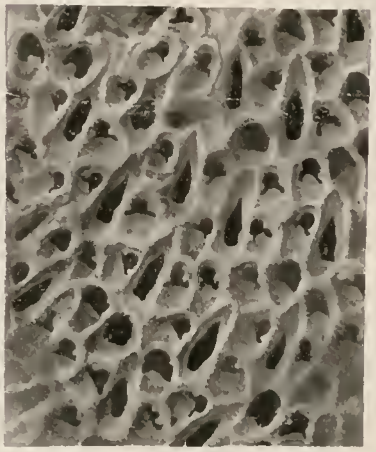
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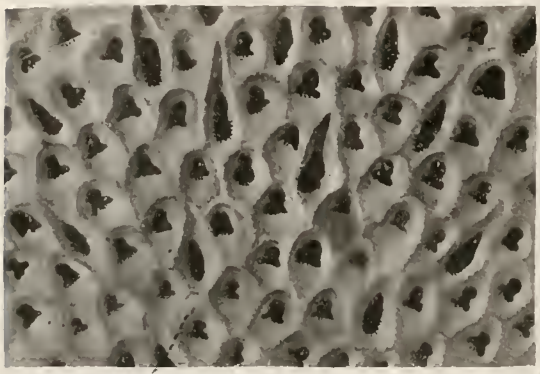

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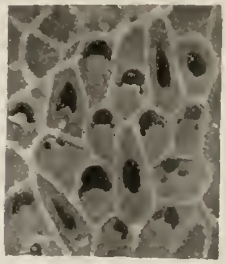
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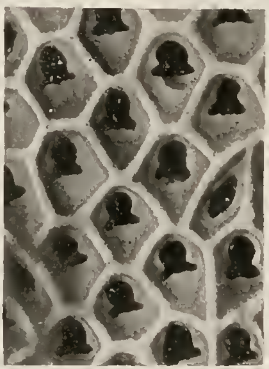
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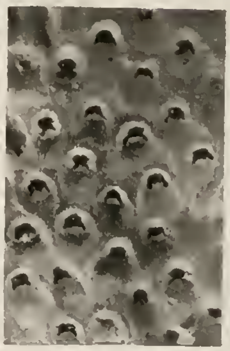
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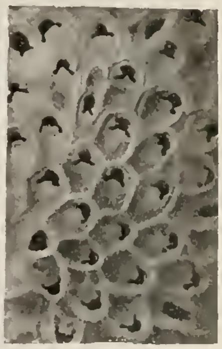
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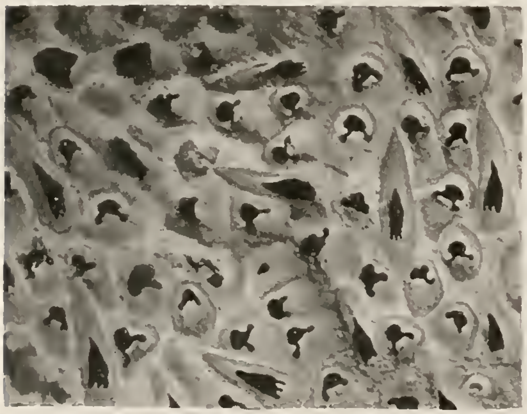
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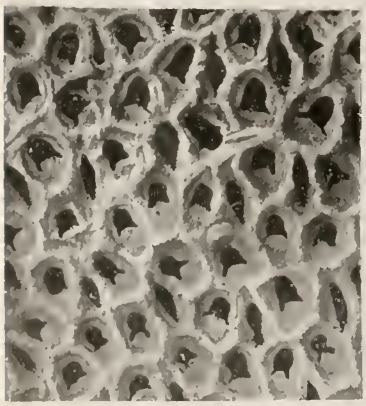
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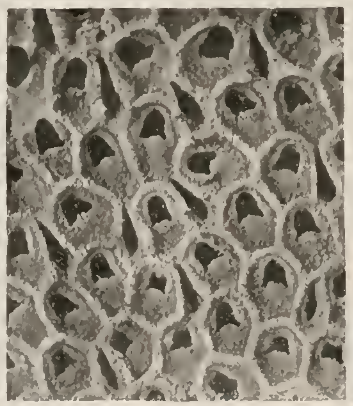
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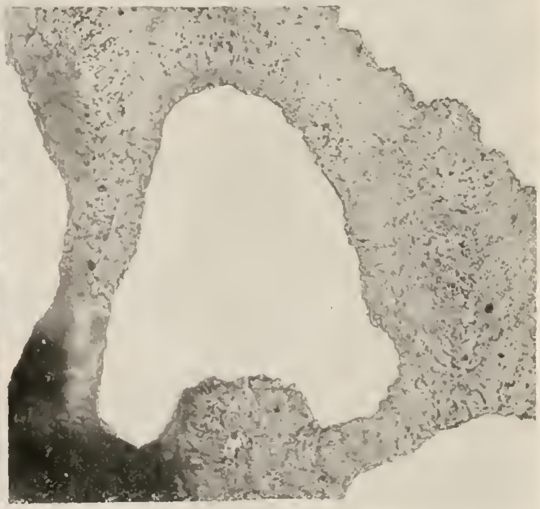
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Jacksonian Cheilostomatous Bryozoa.

PLATE 34.

FIGS. 1–3. *Velumella levigata*, new species (p. 211).

1. The incrusting zoarium, × 20, illustrating the smooth cryptocyst, transverse opesium, and hexagonal onychocellaria characteristic of the species.
   Upper Jacksonian (Ocala limestone): Nine miles north of Ocala, Florida.
   Cat. No. 63972, U.S.N.M.
2. Another surface, × 20, showing an especially thick mural rim.
   Upper Jacksonian (Ocala limestone): Alachua, Florida.
   Cat. No. 63973, U.S.N.M.
3. Portion of a zoarium, × 20, with numerous onychocellaria.
   Upper Jacksonian (Ocala limestone): West bank of Sepulga River, Escambia County, Florida.
   Cat. No. 63974, U.S.N.M.

FIG. 4. *Velumella plicata*, new species (p. 214).

The incrusting type example, × 20. The wrinkled polypidian convexity, elongate zooecial opesium and linear opesiules are characteristic. A regenerated zooecium may be observed near the center of the figure.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 63975, U.S.N.M.

FIGS. 5–7. *Diplopholeos sagittellarium*, new species (p. 217).

5. The incrusting zoarium, × 20, showing a few of the large (B) zooecia. One zooecium bears an ovicell (*ov*).
6. Another zoarium, × 20, exhibiting well developed polypidian convexity and zooecial opesial denticles.
7. View of the interior of the zooecia, × 20.
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 63976, U.S.N.M.

FIG. 8. *Diplopholeos sagittarium*, new species (p. 218).

The incrusting type-specimen, × 20, showing the zooecia with large and small opesia. The characteristic large onychocellaria with two opesial denticles is well exhibited.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63977, U.S.N.M.

FIGS. 9–10. *Diplopholeos parvuliporum*, new species (p. 218).

9. The incrusting zoarium, × 20. The zooecia with broad distal portion are ovicelled.
10. Another zoarium, × 20, exhibiting the specific chambers more distinctly. Several *B* zooecia and onychocellaria may be seen.
    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
    Cat. No. 63978, U.S.N.M.

FIGS. 11–14. *Diplopholeos fusiforme* Canu and Bassler, 1917 (p. 215).

11. The incrusting zoarium, × 20, showing the two kinds of opesia, large and small, quite plainly.
    Upper Jacksonian (Ocala limestone): Four miles below Bainbridge, Georgia.
    Cat. No. 62582, U.S.N.M.
12. Another example, × 20. One ovicell may be seen on a zooecium with large opesium (right-hand side) and also on one with small opesium (near the center).
13. Portion of a specimen, × 25, in which the zooecia are quite regularly arranged.
14. Tangential thin section through a zooecium, × 100, showing structure of the mural rim (to the left), the cryptocyst (to the right), the polypidian convexity and the opesiules.
    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
    Cat. No. 63979, U.S.N.M.

PLATE 35.

FIGS. 1–4. *Floridina granulosa*, new species (p. 220).

1. Surface of the bilamellar zoarium, × 20, with three ovicelled zooecia distinguished easily by their larger micrometric dimensions.
2. Another zoarium, × 20, with onychocellaria well developed. A calcified zooecium is present.
3. A fragment, × 20, in which the trifoliate character of the opesium is well shown.
4. Another surface, × 20, exhibiting the granulose character very clearly. A calcified zooecium and several onychocellaria may be noted.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63980, U.S.N.M.

FIG. 5. *Floridina bifoliata*, new species (p. 221).

Portion of the bifoliate zoarium, × 20. The smooth frontal and the very long onychocellaria are characteristic of the species. Some calcified zooecia may be noted.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63981, U.S.N.M.

FIGS. 6–8. *Floridina asymmetrica*, new species (p. 224).

6. An example of the unilamellar tubular zoarium, × 20.
7. Another specimen, × 20, in which the polypidian convexity and the trifoliate shape of the opesium are apparent.
8. Portion of the same specimen, × 25, showing the structure in more detail.

Upper Jacksonian (Ocala limestone): Bainbridge, Georgia.
Cat. No. 63982, U.S.N.M.

FIG. 9. *Floridina onydentata*, new species (p. 221).

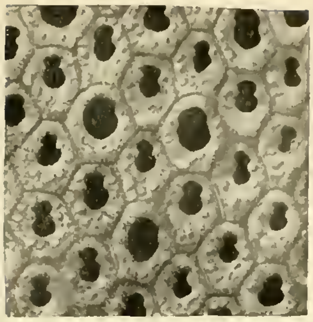
The type-specimen of this unilamellar species, × 25. The large zooecia and the denticulated onychocellarian opesia are distinguishing characters.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63983, U.S.N.M.

FIGS. 10–18. *Floridina antiqua* Smitt, *1873* (p. 222).

10, 11. Two portions of the same unilamellar zoarium, × 25.
12. Another example, × 25, with onychocellaria and two ovicelled zooecia. The polypidian convexity is little apparent.
13. Surface of zooecia, × 20, with the polypidian convexity strongly developed.
14. Another portion of the same specimen, × 20.
15. A third portion of the above example, × 20.
16. Interior of zooecial frontal, × 25, showing the tuberosities present.
17. Another interior, × 20, showing union of opesiular processes with the polypidian convexity.
18. Tangential thin section, × 20. Four pairs of lateral septulae and one distal septula are present.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63984, U.S.N.M.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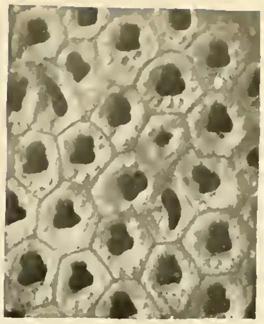
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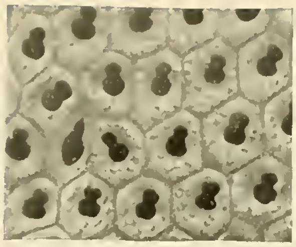
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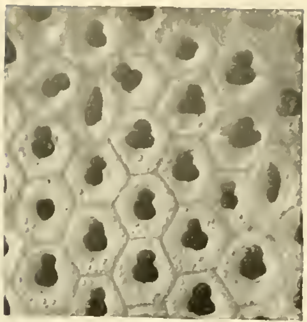
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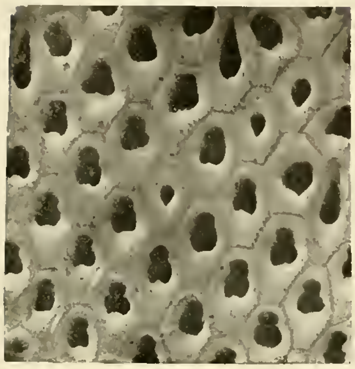
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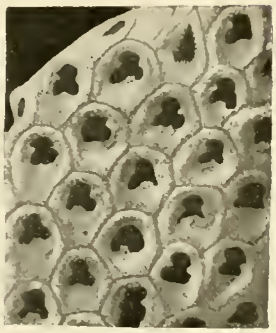
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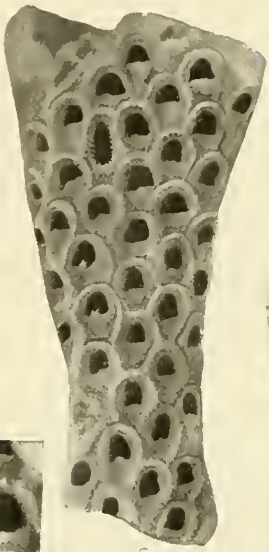
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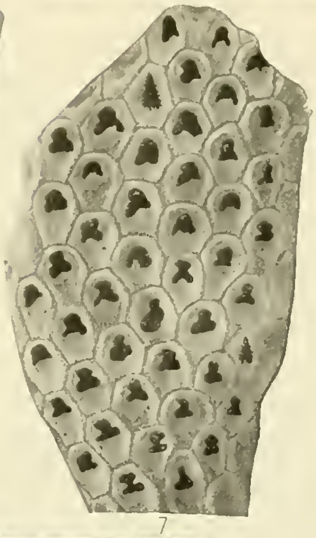
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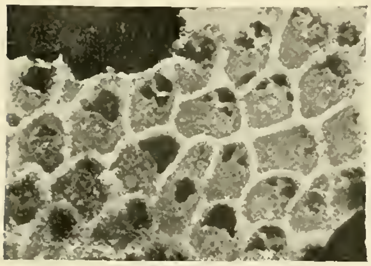
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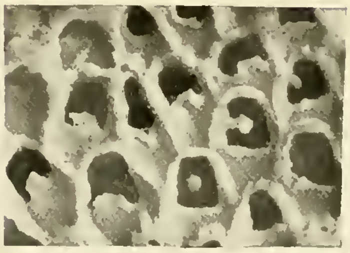
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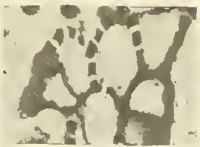
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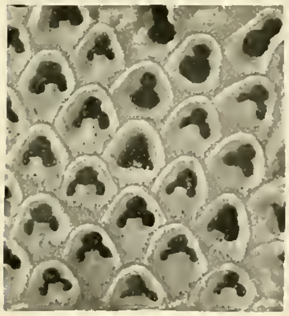
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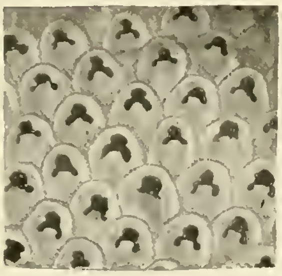
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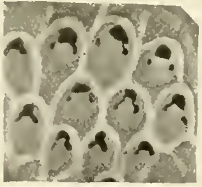
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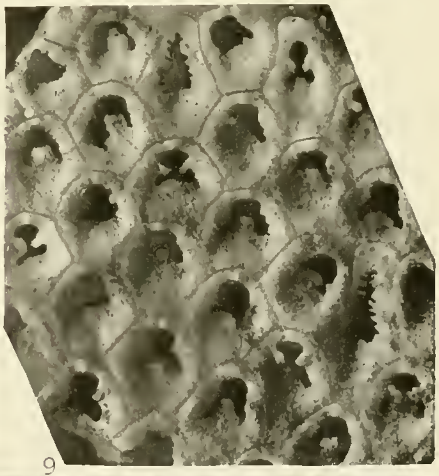
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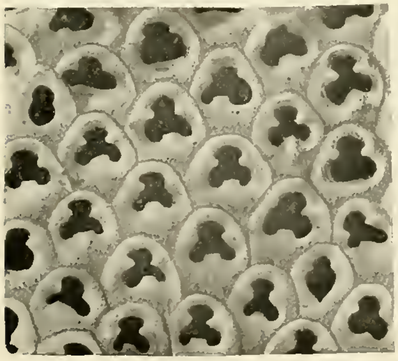
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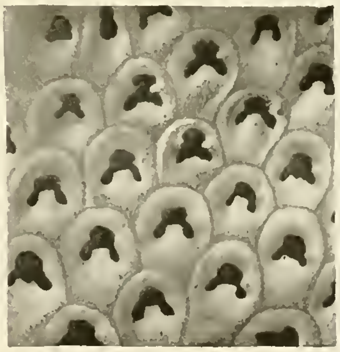
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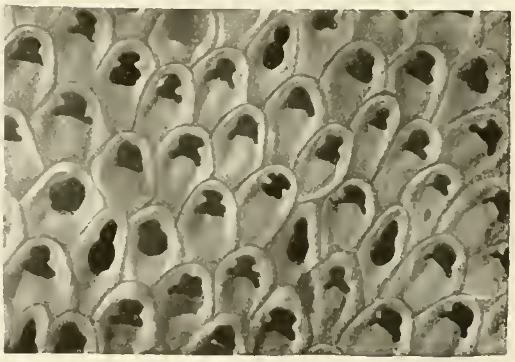
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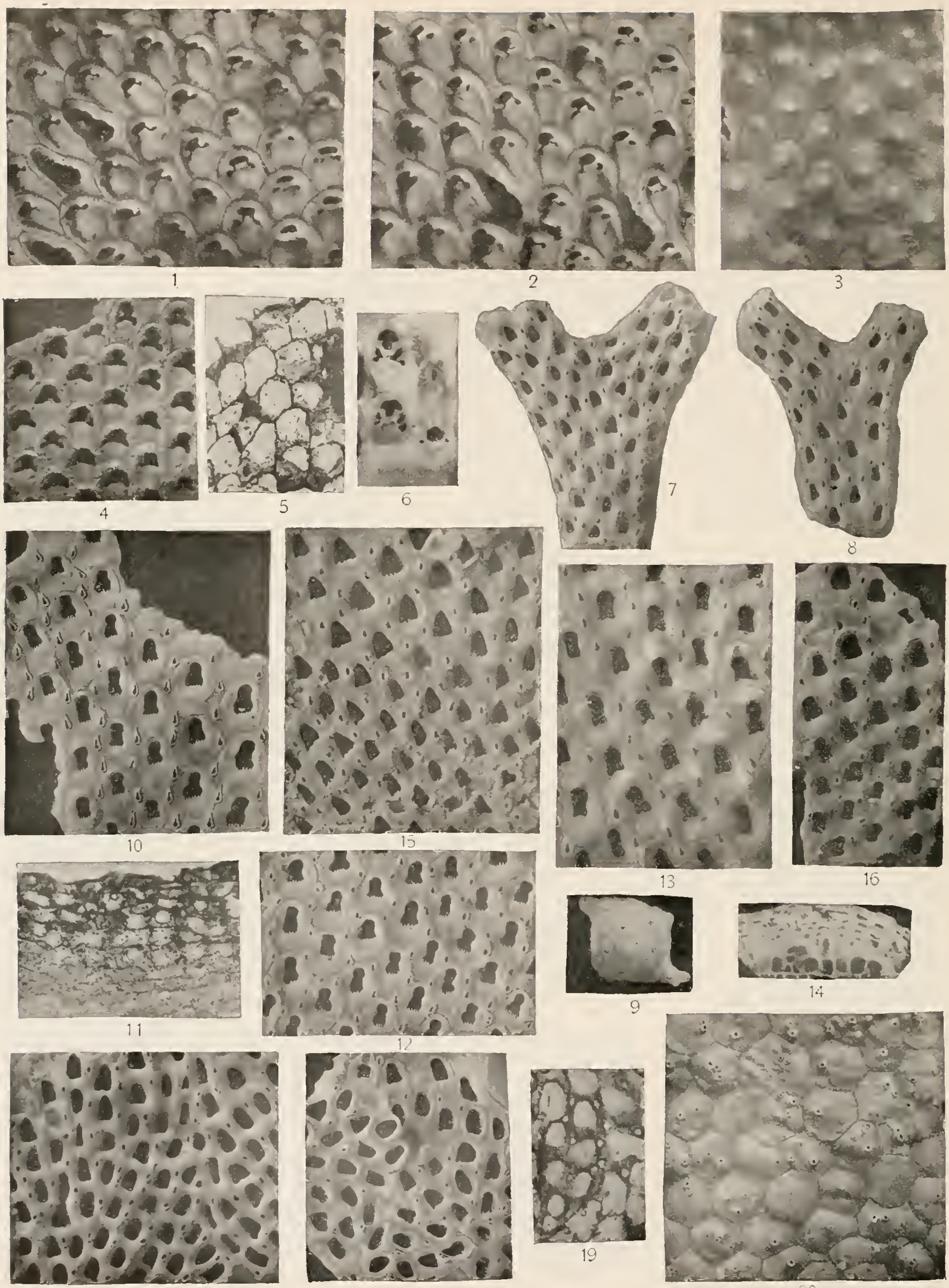
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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Jacksonian Cheilostomatous Bryozoa.

PLATE 36.

FIGS. 1–6. *Floridina laguncula*, new species (p. 223).

1. Portion of the free, unilamellar zoarium, × 25, showing various conditions of the lateral processes and the opesiules.

2. Zooecia of another surface, × 25.

3. Basal side of zoarium, × 20, with the hydrostatic tuberosities quite visible.

4. A small fragment, × 20, with the lateral process so reduced that the opesiules are quite visible.

5. Tangential thin section, × 20, exhibiting the very thin zooecial walls.

6. View of the interior of the frontal, × 20, showing the trifoliate opesium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63985, U.S.N.M.

FIGS. 7, 8. *Dacryonella minor*, new species (p. 232).

7. A portion of the small, bifurcated, bifoliate zoarium, × 20, with some of the zooecia showing the polypidian convexity.

8. Another small zoarium, × 20, in which the avicularia are fairly well developed.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.

Cat. No. 63986, U.S.N.M.

FIGS. 9–20. *Dacryonella octonaria* Canu and Bassler, 1917 (p. 231).

9. An example of the incrusting zoarium, formed of numerous layers piled on top of each other, natural size.

10. Edge of zoarium, × 20, showing broad zooecia.

11. Transversal thin section of a large expanded frond, × 20.

12. Normally developed zooecia, × 20.

13. Another zoarium, × 25, in which a number of the zooecia exhibit ovicells.

14. Transversal section of a zoarium with narrow fronds.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 62584, U.S.N.M.

15. Zoarial lamella, showing the progressive increase of the zooecial size in the direction of the exterior margins.

Upper Jacksonian (Ocala limestone): Red Bluff on Flint River, 7 miles above Bainbridge, Georgia.

Cat. No. 63987, U.S.N.M.

16. Exterior lamella with reduced zooecia, × 20.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.

Cat. No. 63988, U.S.N.M.

17. Exterior lamella with deformed zooecia, × 20.

18. View of zoarium, × 20, showing distorted zooecia.

Middle Jacksonian: 3½ miles north of Grovania, Georgia.

Cat. No. 63989, U.S.N.M.

19. Tangential thin section, × 20, exhibiting the rounded avicularian cavities and the olocystal structure of the wall.

20. Basal side of zoarium, × 20, with the hydrostatic porous tuberosities quite visible.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63990, U.S.N.M.

PLATE 37.

FIGS. 1, 2. *Aechmella crassimargo*, new species (p. 233).

1. An entire example of the incrusting zoarium, × 20. The thick walled zooecia and the elliptical avicularian opesium are the important specific characters.
2. A small incrustation, × 20, showing the ancestrula and neighboring zooecia.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 63991, U.S.N.M.

FIGS. 3–5. *Aechmella filimargo* Canu and Bassler, 1917 (p. 234).

3. The incrusting zoarium, × 20, illustrating ancestrula and surrounding zooecia.
4. Another portion of the same zoarium, × 20, showing the specific characters—thin zooecial walls and avicularia with round opesia.
5. Another example, × 20. The three zooecia with thick distal borders are ovicelled.

Upper Jacksonian (Ocala limestone): West bank Sepulga River, Escambia County, Alabama.
Cat. No. 62585, U.S.N.M.

FIGS. 6–9. *Lunularia verrucosa*, new species (p. 242).

6. Zoarium, natural size.
7. Surface of the same specimen, × 20, showing the very thick hydrostatic zooecia.
8. Inner side of zoarium, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 63992, U.S.N.M.

9. Interior of frontal of zooecia, × 20.

Middle Jacksonian: 18 miles west of Wrightsville, Georgia
Cat. No. 63993, U.S.N.M.

FIGS. 10–13. *Lunularia fenestrata* De Gregorio, 1894 (p. 244).

10. Zoarium, natural size
11. Surface of the same, × 20, showing the hydrostatic ancestrular zooecia with four openings, and also the normal zooecia.
12. View, × 20, of the radial ribs of the inner side, pierced by scattered pores.
13. Photograph of edge of transversely broken zoarium, × 20. The lateral septulae are visible.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63994, U.S.N.M.

FIGS. 14–18. *Lunularia tubifera*, new species (p. 245).

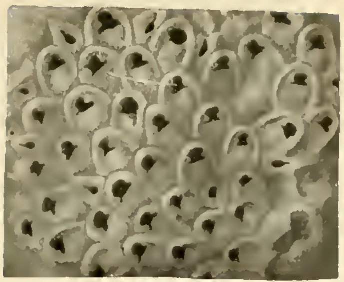
14. Four fragmentary zoaria, natural size.
15. One of these fragments, × 20. The ancestrular zooecia are radicular and the vibracula are large and not in distinct rows.
16. Another fragment, × 20, showing ordinary zooecia transformed into radicular ones.
17. A small example, × 20, exhibiting characters of the ordinary zooecia and vibracula.
18. Inner side of zoarium, × 20, showing the tube-like zooecia and the absence of a covering membrane.

Middle Jacksonian: One-half mile south of Georgia Kaolin Company's mine, Twiggs County, Georgia.
Cat. No. 63995, U.S.N.M.

FIGS. 19–22. *Lunularia jacksonensis*, new species (p. 250).

19. Fragmentary zoaria, natural size.
20. An entire zoarium, × 20, consisting mainly of hydrostatic zooecia.
21. Portion of a zoarium, × 20, showing the ordinary and hydrostatic zooecia and the vibracula.
22. Inner side of zoarium, × 20, exhibiting the radial tuberose ribs.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 63996, U.S.N.M.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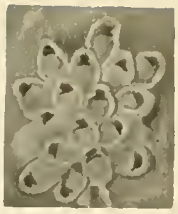
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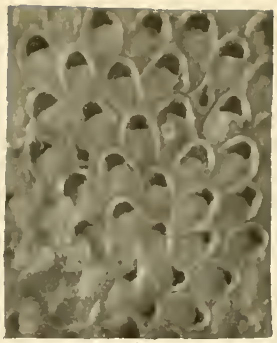
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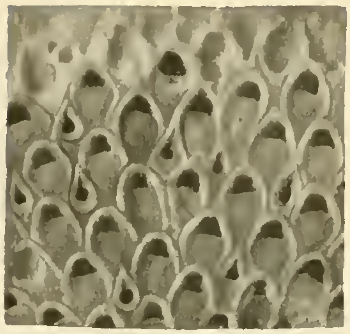
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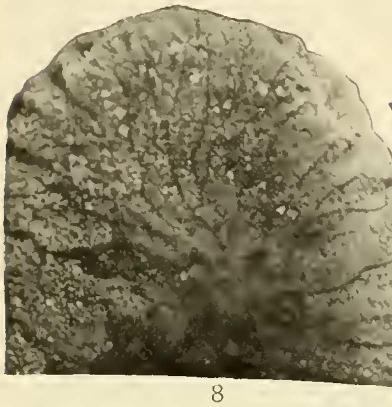
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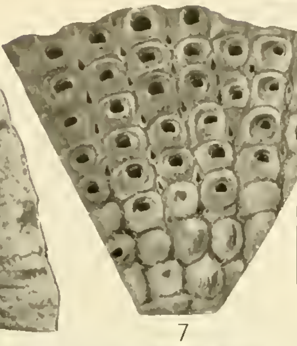
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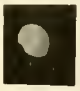
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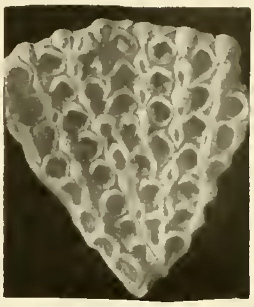
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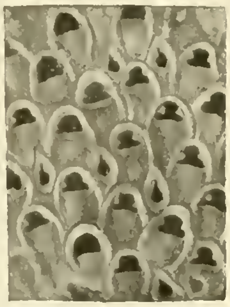
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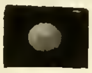
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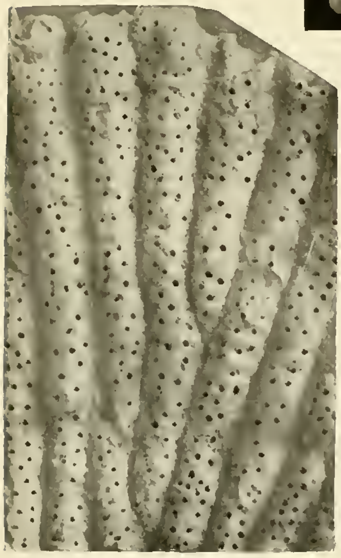
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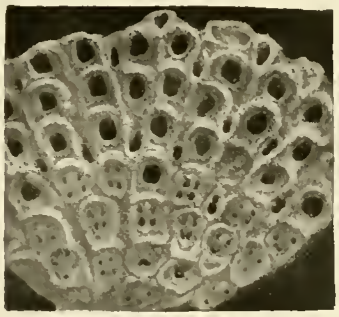
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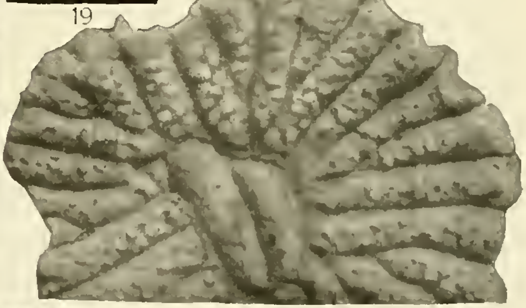
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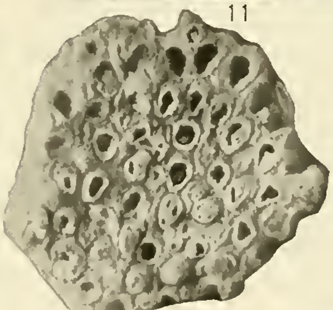
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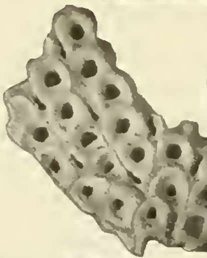
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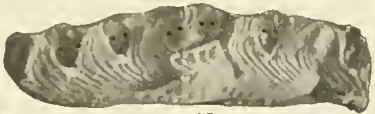
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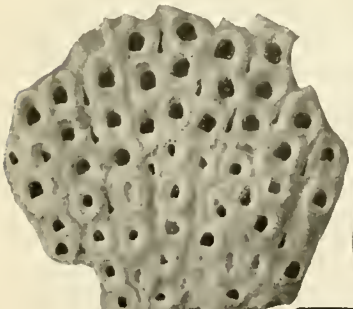
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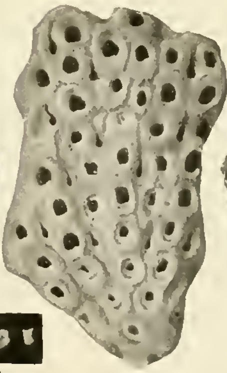
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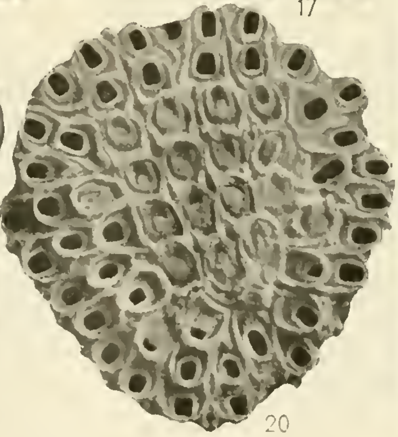
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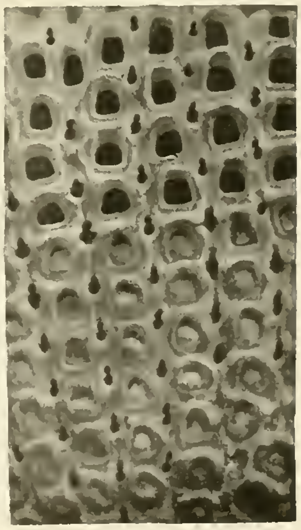
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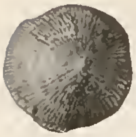
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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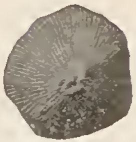
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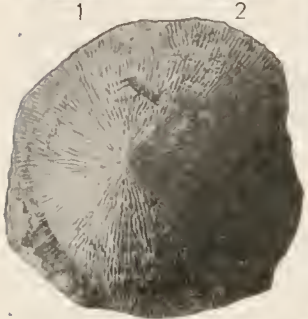
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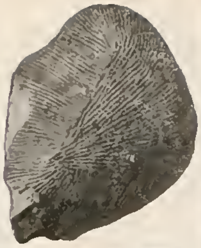
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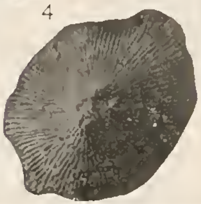
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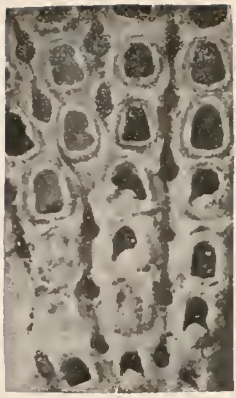
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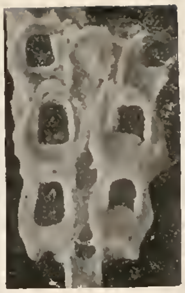
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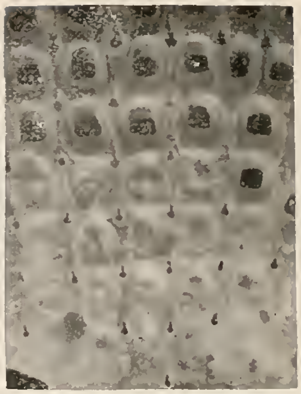
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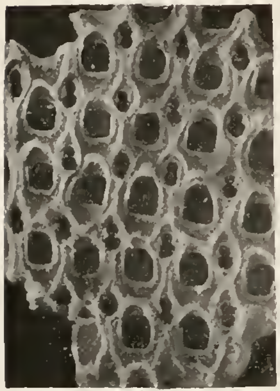
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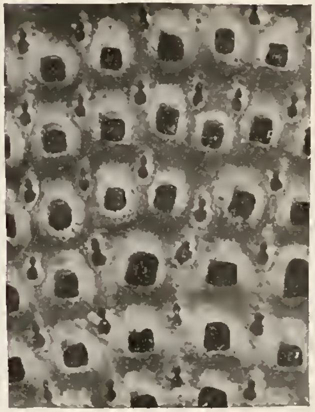
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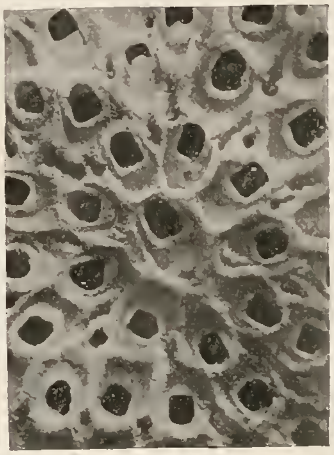
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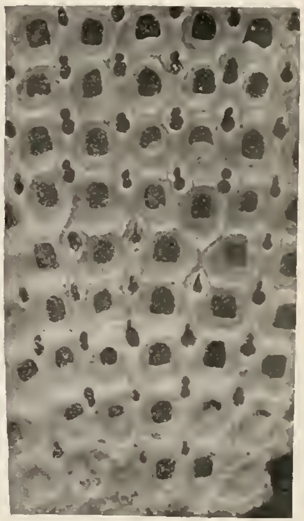
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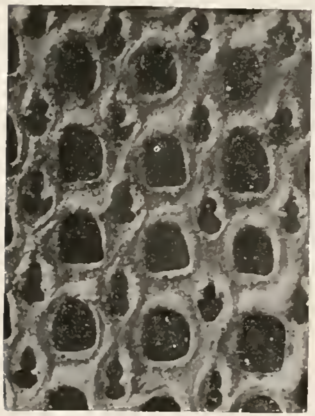
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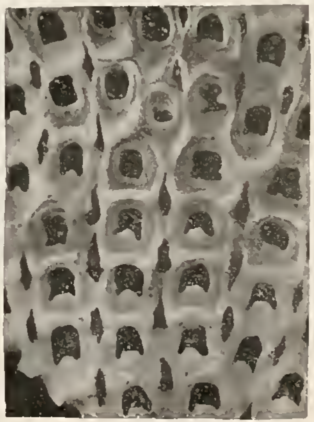
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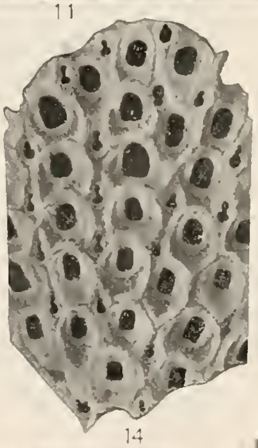
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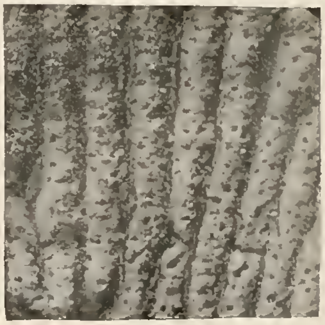
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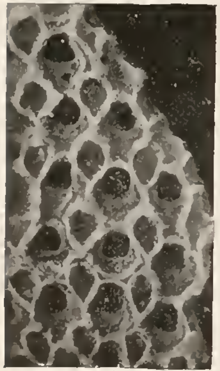
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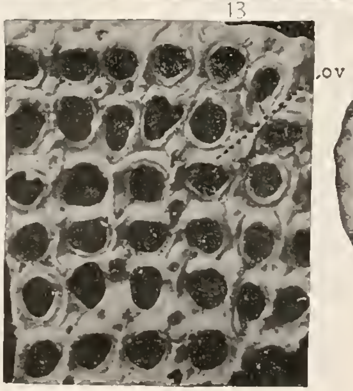

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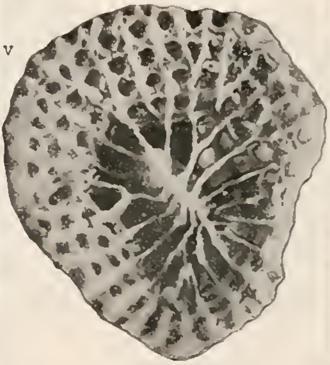
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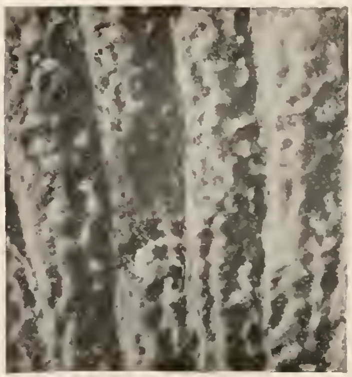
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Jacksonian Cheilostomatous Bryozoa.

PLATE 38.

FIGS. 1–20. *Lunularia distans* Lonsdale, 1845 (p. 245).

1–5. Five examples natural size of zoaria preserving only the basal membrane. This is the most frequent occurrence of the species.

6. Normal zooecia, × 20, exhibiting a lamella in some of them.

7. A small fragment of normal zooecia, × 20, with the polypidian convexity well developed in two of the zooecia and the ovicell shown on two of them.

8. Surface of a zoarium, × 20, showing hydrostatic radicular zooecia succeeded by several rows of the normal small form.

9. An example of normal zooecia, × 20, in which many of the zooecia preserve the ovicells.

10. Photograph of another zoarium, × 20, with ovicelled zooecia.

11. Ancestrular region of zoarium, × 20, in which the ancestrula is very large and is surrounded immediately by large zooecia.

12. Normal zooecia and well developed vibracula, × 20, several of the former with ovicells.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63997, U.S.N.M.

13. A zoarium, × 20, with well developed polypidian convexities.

14. A fragmentary zoarium, × 20, illustrating another aspect of the species.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 63998, U.S.N.M.

15. Interior of frontal of the zooecia, × 20.

16. Another interior of the frontal, × 20, showing absence of basal wall and the occurrence of an ovicell (*ov*) on the much developed distal wall.

17. Inner side of an entire zoarium, × 10, showing the absence of basal wall.

18. Inner side of the basal lamella, × 20, seen on specimen of figure 1.

19. A wax impression of a mold, × 20, of the exterior showing the external appearance of the inner side.

20. Portion of a zoarium, × 20. The rows of radicular zooecia are followed by rows of small zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 63997, U.S.N.M.

PLATE 39.

FIGS. 1–5. *Lunularia contigua* Lonsdale, 1845 (p. 247).

1. View of the zoarium, natural size, preserving only the basal lamina.
2. A life-sized view of the interior of the zoarium as preserved in the rock.
3. Celluliferous side of an example, × 20, showing both small and large zooecia.
4. Interior of a zoarium, × 20, illustrating the sacklike form of the zooecia, which are moreover calcified.
5. Edge of a zoarium, showing the calcified zooecia in transverse fracture.
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 63999, U.S.N.M.

FIGS. 6, 7. *Rhagasostoma levigatum*, new species (p. 254).

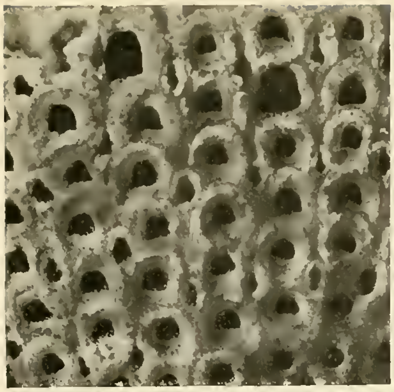
6. Surface of the incrusting zoarium, × 20, with numerous ovicells developed.
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 64000, U.S.N.M.
7. Surface of zooecia, × 20, of the Vicksburgian form.
   Vicksburgian (Marianna limestone): Salt Mountain, five miles south of Jackson, Alabama.
   Cat. No. 64001, U.S.N.M.

FIG. 8. *Rhagasostoma minusculum*, new species (p. 255).

The type-specimen of this minute incrusting species, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64002, U.S.N.M.

FIGS. 9–16. *Steganoporella jacksonica*, new species (p. 262).

9. Three of the bilamellar zoaria, natural size.
10. Surface, × 20, exhibiting the large (*B*) zooecia and the small (*a*) zooecia.
11. Another zoarium, × 20.
12. Photograph of interior, × 20, after abrasion of the dorsal side.
13. View, × 20, showing oblique partition in the *a* zooecia obtained by abrasion of the frontal.
14. Tangential thin section through zooecia, × 100.
    Middle Jacksonian: Baldock, Barnwell County, South Carolina.
    Cat. No. 64003, U.S.N.M.
15. Dorsal side of a zoarium, × 20, which has parted through the middle.
    Middle Jacksonian: Seventeen miles northeast of Hawkinsville, Georgia.
    Cat. No. 64004, U.S.N.M.
16. Surface of a broad zoarium, × 20.
    Middle Jacksonian: Three and a half miles north of Grovania, Georgia.
    Cat. No. 64005, U.S.N.M.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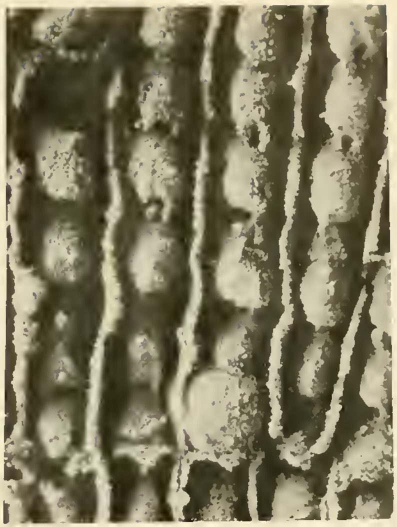
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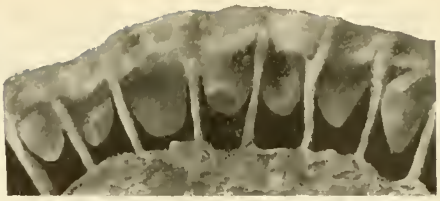
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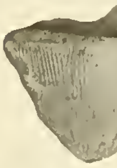
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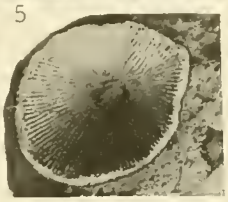
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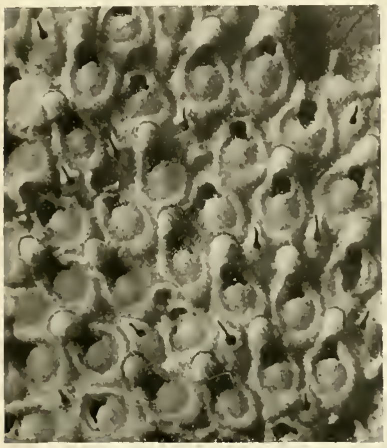
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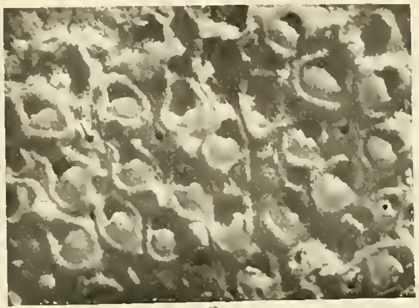
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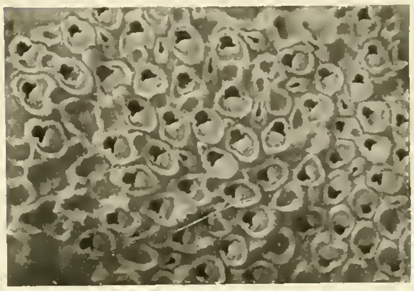
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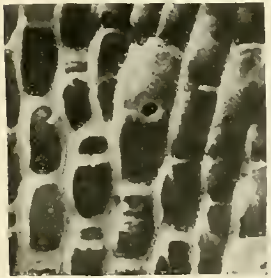
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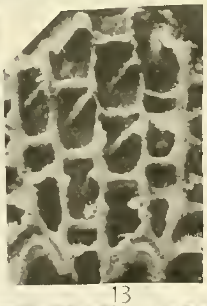
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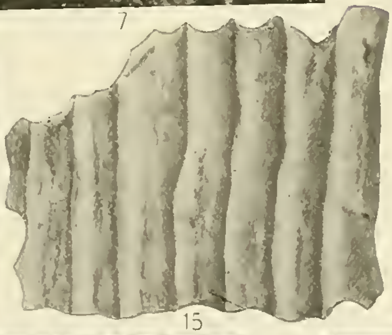
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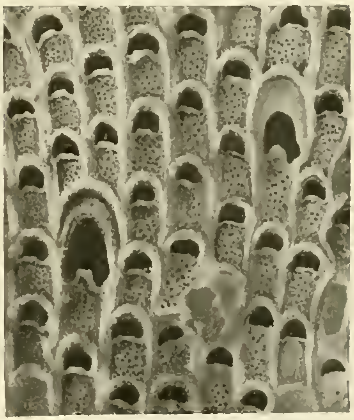
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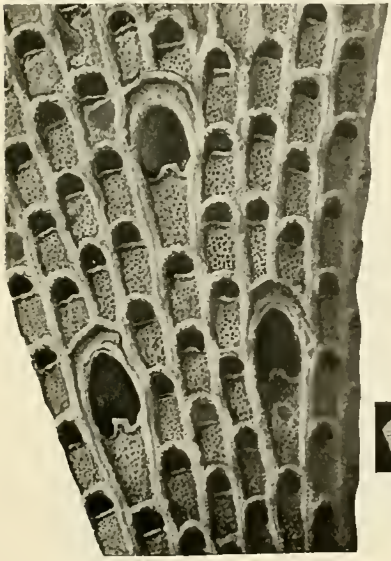
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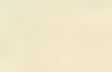
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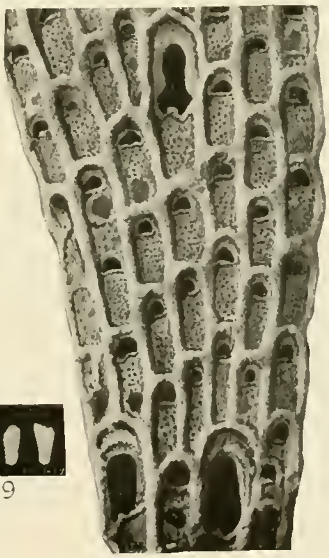
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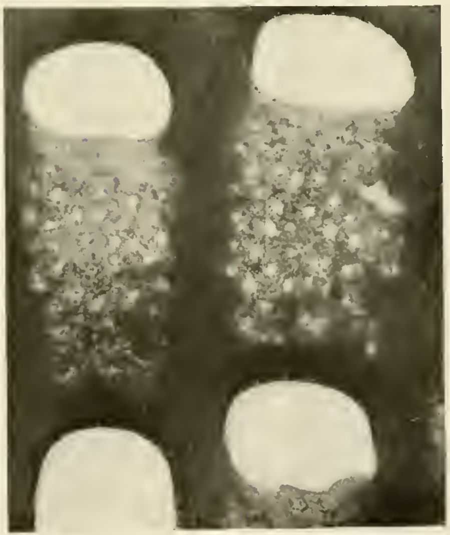
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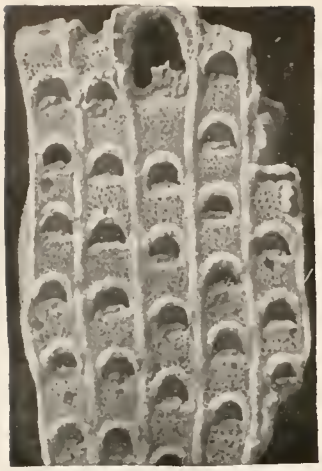
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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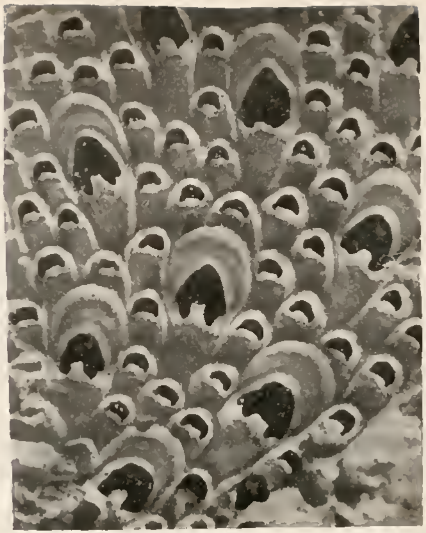
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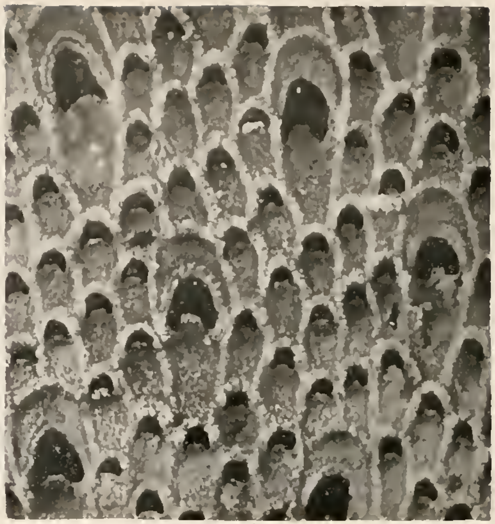
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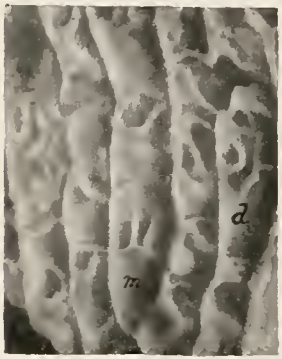

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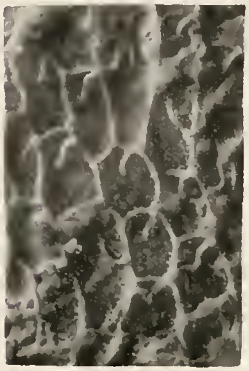
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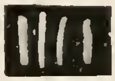
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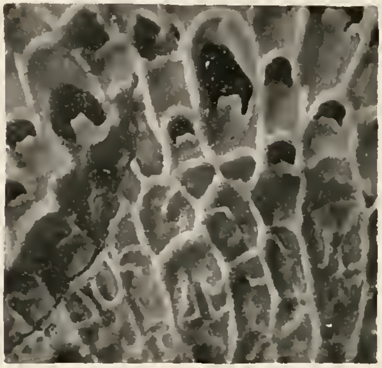
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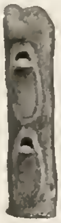
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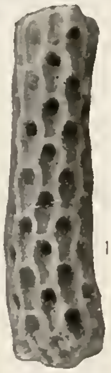
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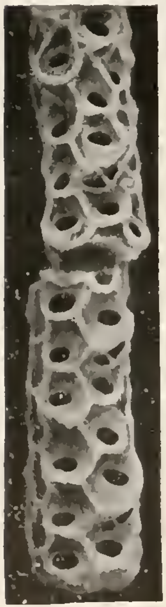
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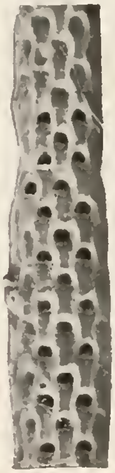
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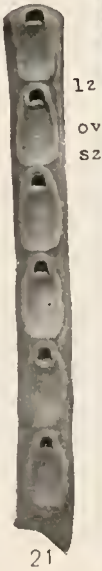

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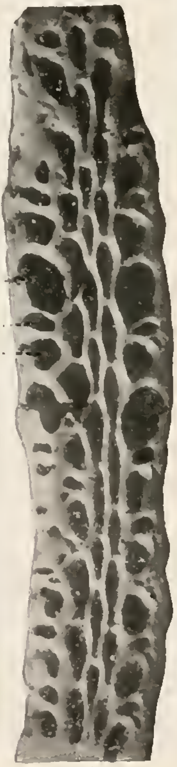
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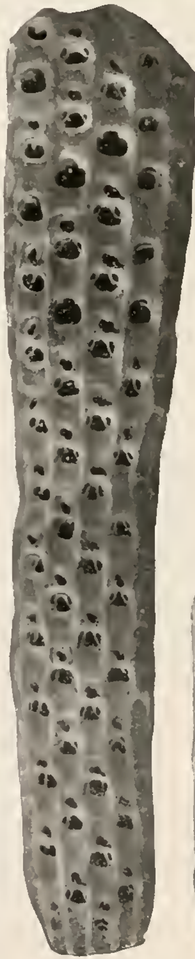
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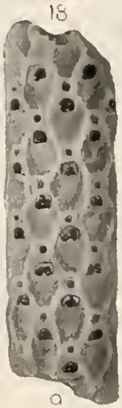
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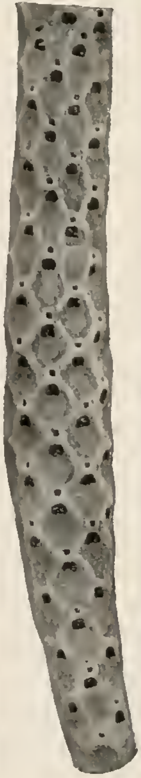
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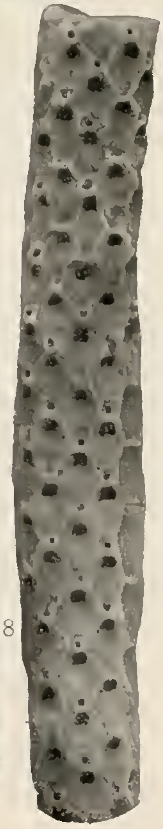
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Jacksonian Cheilostomatous Bryozoa.

PLATE 40.

FIG. 1. *Steganoporella rectangularia*, new species (p. 263).

Fragment of the bilamellar zoarium. × 20. One *B* zooecium, with its prominent polypide tube, is present.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 64006, U.S.N.M.

FIGS. 2–6. *Steganoporella incrustans*, new species (p. 263).

2. The incrusting zoarium, × 20, exhibiting the small *a* zooecia and the very large *B* zooecia, with prominent polypidian tube.

Upper Jacksonian (Ocala limestone): West bank Sepulga River, Escambia County, Alabama.

Cat. No. 64007, U.S.N.M.

3. Small portion of a broad expansion × 20, with the surface slightly altered by chemical action.

Upper Jacksonian (Ocala limestone): Four miles below Bainbridge, Georgia.

Cat. No. 64008, U.S.N.M.

4. Portion of zoarium, × 20 with frontal removed. The internal structure of two *B* zooecia is shown.
5. View, × 20, showing oblique partition in *a* zooecia.
6. Another view, × 20, with a portion of the frontal removed, showing the partition in the *a* zooecia.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.

Cat. No. 64009, U.S.N.M.

FIGS. 7–10. *Cellaria strictocella*, new species (p. 273).

7, 8. Two segments, × 20 showing general structure of zooecia and ovicells.

9. Fragment, × 20, illustrating occurrence of lamella in the zooecial aperture.

10. Two segments, natural size.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64010, U.S.N.M.

FIGS. 11–13. *Cellaria dimorpha*, new species (p. 273).

11. Four segments, natural size.
12. An entire segment, × 20, exhibiting the characteristic large and small zooecia, with the lamella in their aperture and the ovicell openings resembling avicularia.
13. Longitudinal section through center of a segment, × 20. The large (*lz*) and small zooecia (*sz*) and the endotoichal ovicell (*ov*) are to be noted.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64011, U.S.N.M.

FIGS. 14–17. *Cellaria bifaciata*, new species (p. 274).

14. Segments, natural size.
15. Posterior face of a segment, × 20, exhibiting the small zooecia.
16. Same view of another segment, × 20. A single ovicell may be noted.
17. Anterior face of a specimen, × 20, showing the large hexagonal zooecia and falciform avicularia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64012, U.S.N.M.

FIGS. 18–20. *Quadricellaria laciniosa*, new species (p. 279).

18. The largest fragment observed, × 20. The shallow cryptocyst and the inferior triangular gymnocyst are shown.

19, 20. Two small fragments, × 20, illustrating slight variations.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64013, U.S.N.M.

FIG. 21. *Quadricellaria burnsi*, new species (p. 279).

The type-specimen of this articulated species, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64014, U.S.N.M.

PLATE 41.

FIGS. 1–3. *Macropora multilamellosa*, new species (p. 277).

1. Surface of the external layer of the multilamellar zoarium, × 20. The normal zooecia are smooth and separated by a salient line. Hydrostatic tuberosities are developed on the frontal in the lower half of the figure.

2. Zooecia of an internal lamella, × 20. Their frontal is granulated and their apertures are closed by a lamina.

3. Sketch of tangential thin section through a zooecium, × 20, showing occurrence of 3 dietellae.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64015, U.S.N.M.

FIGS. 4, 5. *Membraniporella ulrichi*, new species (p. 287).

4. Surface of the bilamellar zoarium, × 20, showing all of the specific characters well developed.

5. Tangential thin section through the frontal of a zooecium, × 100, showing regularly placed olocystal elements.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64016, U.S.N.M.

FIGS. 6–8. *Membraniporella compressa*, new species (p. 288).

6. Views of the free cylindrical zoarium, × 20.

Middle Jacksonian: 18 miles west of Wrightsville, Georgia.
Cat. No. 64017, U.S.N.M.

7, 8. Two fragments of a more compressed example, × 20.

Middle Jacksonian: One-half mile southeast of Georgia Kaolin Company's Mine, Twiggs County, Georgia.
Cat. No, 64018, U.S.N.M.

FIGS. 9, 10. *Membraniporella monilifera*, new species (p. 289).

9. View of the incrusting zoarium, × 20, showing the costular tuberosities in the form of a T. Several zooecia have broken ovicells.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64019, U.S.N.M.

10. Young zooecia, × 20. The prominence at the aperture only is developed.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64020, U.S.N.M.

FIGS. 11–13. *Membraniporella bioculata*, new species (p. 287).

11. The incrusting zoarium, × 20, showing the characteristic two large pores.

12. Another portion of the same zoarium, × 20, with an ovicelled zooecium.

13. Another specimen, × 20, illustrating development of the mucro to form the two large pores. The zooecia with avicularium have no spines.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64021, U.S.N.M.

FIGS. 14–18. *Puellina radiata* Moll, 1803 (p. 295).

14. Portion of the incrusting zoarium, × 25. No avicularia are visible.

15. Another zoarium, × 25, in which the long avicularium is developed. Several zooecia with keeled ovicell may be noted.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64022, U.S.N.M.

16, 17. Two zoaria, × 25, preserving the ancestrula which is a membraniporoid zooecium surrounded by spines.

Vicksburgian (Marianna limestone): Three miles southeast of Vosburg, Jasper County, Mississippi.
Cat. No. 64023, U.S.N.M.

18. Portion of an example, × 25, showing the ancestrula (in the lower part) and an avicularium regenerated in a zooecium (upper part of figure).

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 64024, U.S.N.M.

FIG. 19. *Puellina radiata anaticula*, new variety (p. 297).

Surface of the type, × 25, exhibiting the characteristic avicularia with beak like that of a duck.

Upper Jacksonian (Ocala limestone): Seven miles above Bainbridge, Georgia.
Cat. No. 64025, U.S.N.M.

FIG. 20. *Puellina radiata carolinensis* Gabb and Horn, 1862 (p. 297).

Surface of zooecia, × 25, illustrating the characteristic smooth peristome and large avicularia.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64026, U.S.N.M.

FIG. 21. *Puellina simulator*, new species. (See also pl. 84, fig. 14.) (p. 298.)

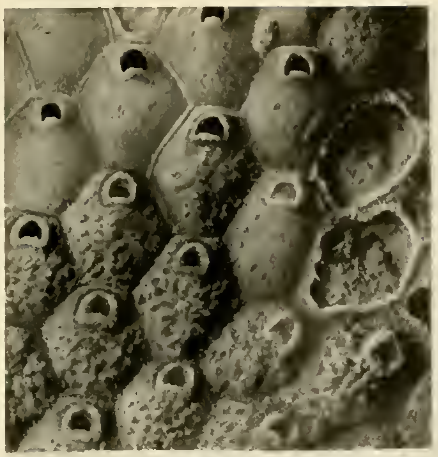
Ovicelled zooecia, × 25.

Jacksonian (Zeuglodon zone): Cocoa post office, Choctaw County; Alabama.
Cat. No. 64027, U.S.N.M.

FIG. 22. *Puellina bispinosa*, new species (p. 297).

An example, × 25, with the zooecia showing the two large spines and two small triangular avicularia.

Upper Jacksonian (Ocala limestone): Seven miles above Bainbridge, Georgia.
Cat. No. 64028, U.S.N.M.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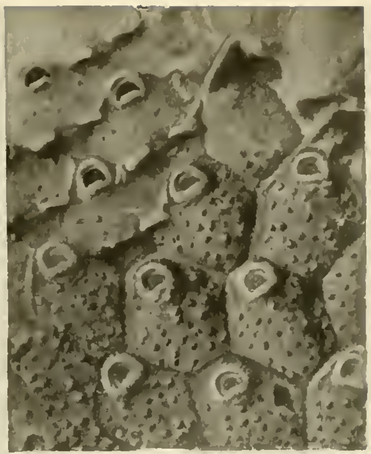
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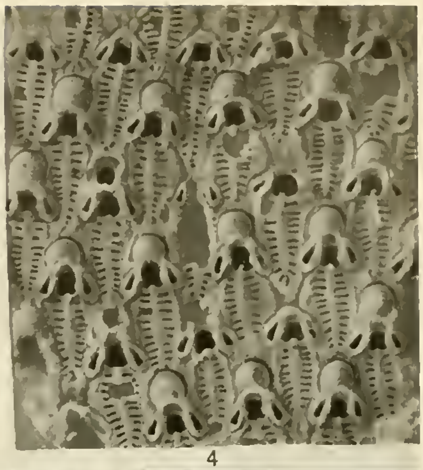
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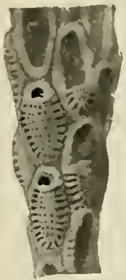
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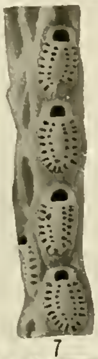
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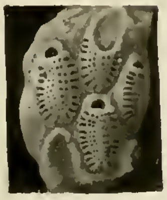
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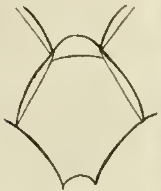
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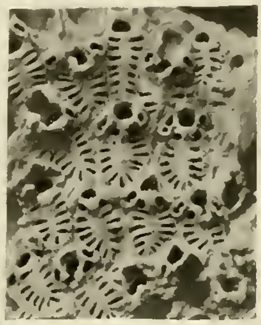
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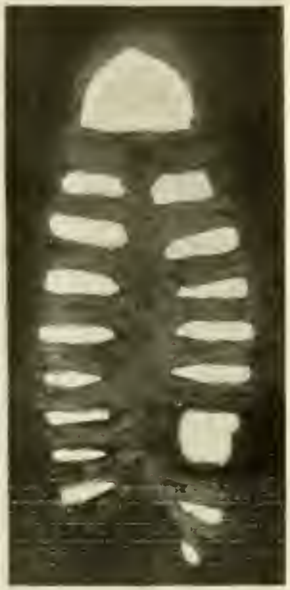
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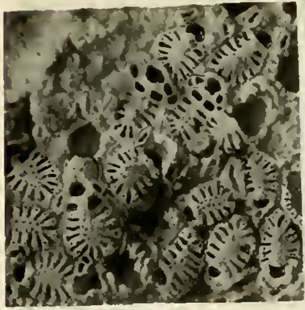
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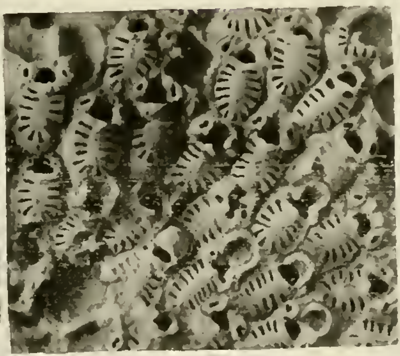
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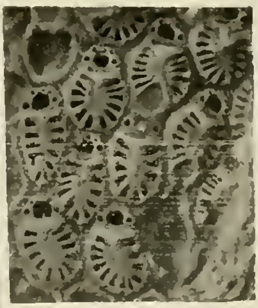
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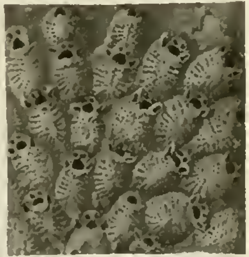
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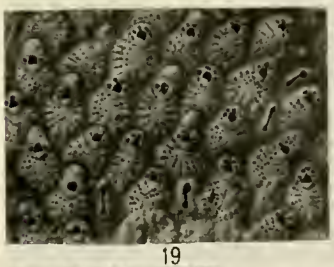
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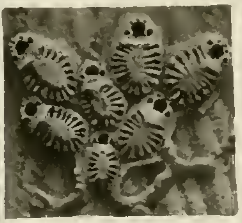
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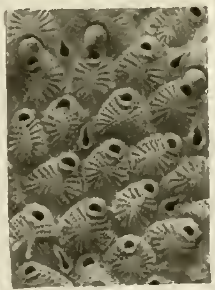
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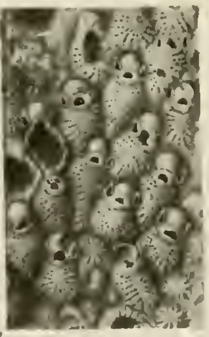
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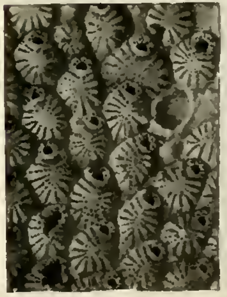
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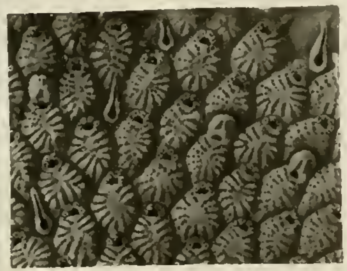
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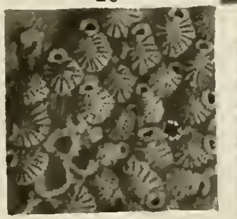
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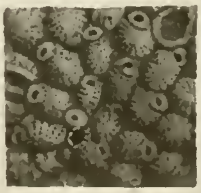
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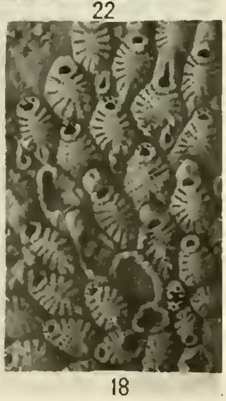
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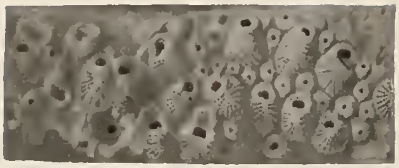
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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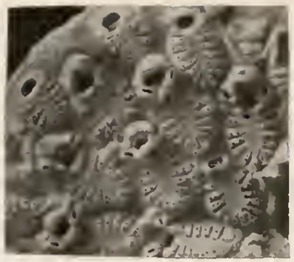
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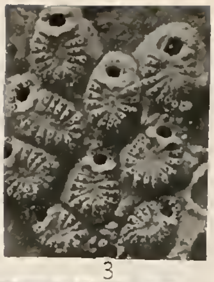
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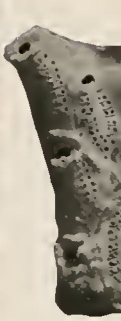
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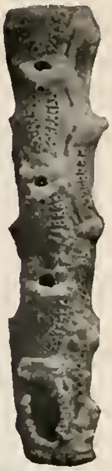
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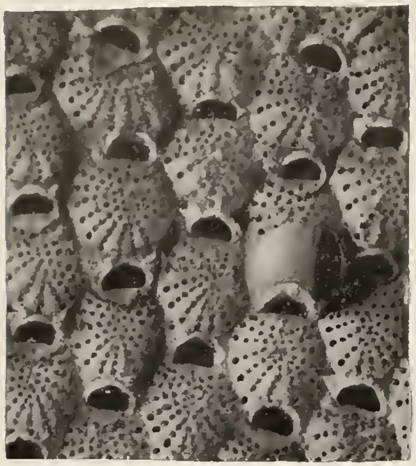
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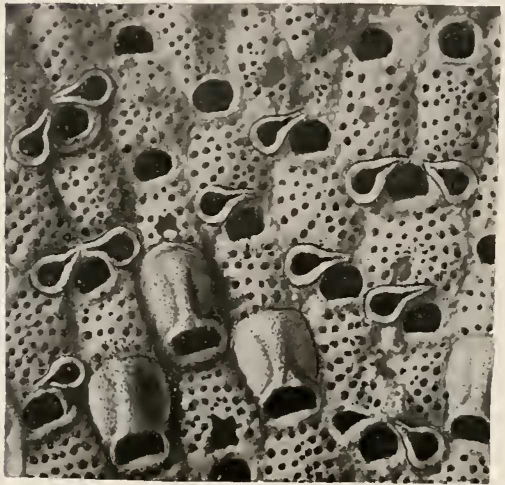
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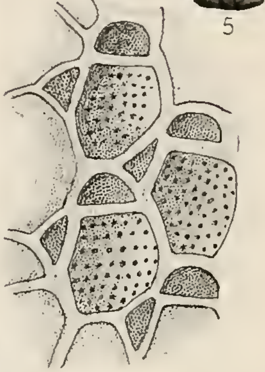

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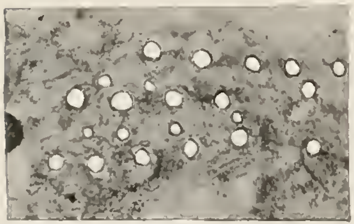
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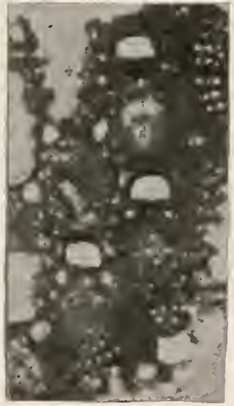
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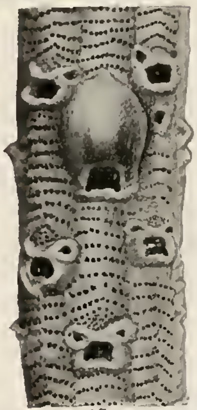
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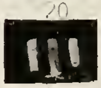
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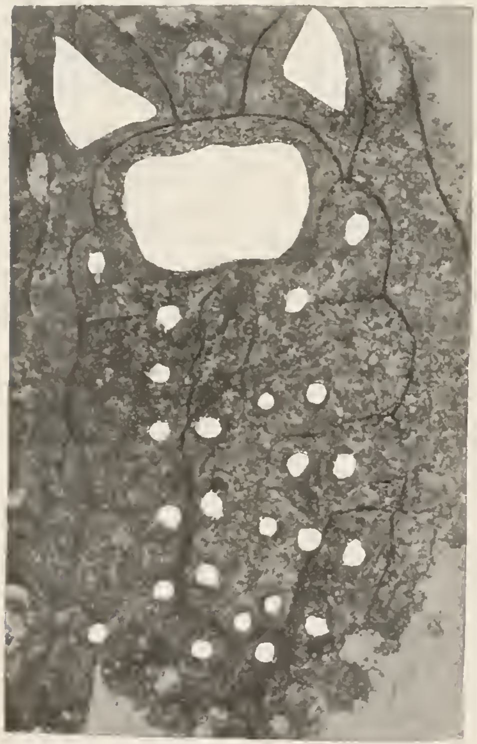
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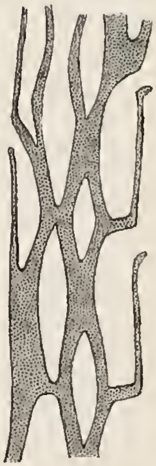
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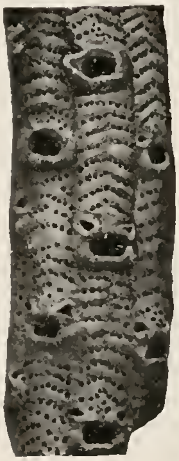
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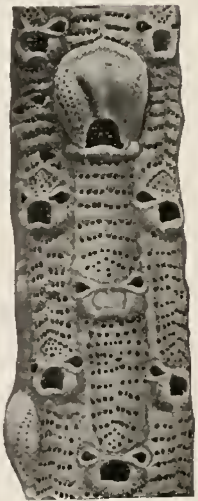
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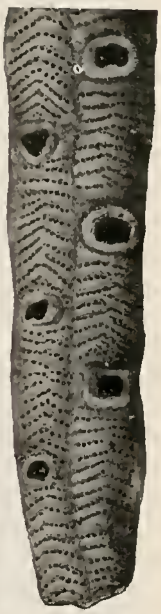
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 42.

FIG. 1. *Distansescharella jacksonica*, new species (p. 300).

The incrusting type-specimen, × 30. Numerous small accessory cellules are shown.

Middle Jacksonian: One-half mile southeast of Georgia Kaolin Co.'s Mine, Twiggs County, Georgia.

Cat. No. 64029, U.S.N.M.

FIGS. 2, 3. *Gephyrotes convexa*, new species (p. 302).

2. The incrusting zoarium, × 20, with ovarian zooecia, which alone bear the ovicell, spiramen and oral avicularia.
3. Another example, × 20, without ovicelled zooecia. The ordinary zooecia lack the spiramen and oral avicularia.

Upper Jacksonian (Ocala limestone): West bank Sepulga River, Escambia County, Alabama.

Cat. No. 64030, U.S.N.M.

FIGS. 4, 5. *Gephyrotes quadriserialis*, new species (p. 304).

4. A fragment of a bifurcated zoarium, × 20. The spiramen is here replaced by a pseudo-rimule.
5. The free cylindrical zoarium, × 20. The spiramen is present on the zooecia without ovicells.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.

Cat. No. 64031, U.S.N.M.

FIGS. 6, 7. *Metracolposa brevis*, new species (p. 305).

6. Fragment of the bifoliate zoarium, natural size.
7. Portion of the surface, × 20. The large, short zooecia, the smooth ovicell and the absence of avicularia are characteristic.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.

Cat. No. 64032, U.S.N.M.

FIGS. 8–13. *Metracolposa grandis*, new species (p. 305).

8. Portion of the bifoliate zoarium, natural size.
9. Surface of the same specimen, × 20. The long zooecia, with carinated ovicell and the large distal avicularia, are the distinguishing characters.
10. Drawing of the interior of the zooecial frontal, × 20, showing the proximal border of the aperture bordered by a thick collar.
11. Tangential thin section, × 25.
12. Tangential thin section of a single zooecium, × 100. The avicularia, lacunae, traces of the costules and the polygonal network are visible.
13. Small portion of a tangential thin section, × 100. The larger white pores are lacunae, while the smaller intermediate ones are lumen pores.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64033, U.S.N.M.

FIGS. 14–20. *Metracolposa cylindrica*, new species (p. 307).

14. The free, cylindrical zoaria, natural size.
15. An example, × 20, in which the keel of the ovicell is little developed.
16. Surface of zooecia, × 20, with the avicularia reduced in size.
17. A well-preserved specimen, × 20, with the ovicell and avicularia well developed. One of the zooecial apertures is closed by a calcareous operculum.
18. Another zoarium, × 20, in which the avicularia are absent.
19. Sketch of a longitudinal section through a zoarium, × 20, showing the structure of the zooecia and their thin walls.
20. The narrow lower extremity of the zoarium, × 20, exhibiting three pores.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64034, U.S.N.M.

PLATE 43.

FIGS. 1–7. *Metracolposa robusta* Canu and Bassler, 1917 (p. 306).

1. Three fragments of the bifoliate zoarium, natural size.
2. Surface of an example, × 20, with some broad zooecia showing costules radially arranged. The infrequent avicularia with pivot are present on this specimen.
3. Another specimen, × 20, with numerous ovicelled zooecia. The avicularia are entirely absent.
4. Tangential thin section through the walls of a zooecium, ×100. The wall is composed of scattered olocystal elements, and the avicularia represented by the two smaller openings appear to be interzooecial.
5. Sketch of a longitudinal section through an ovicelled zooecium. The ovicell is seen occupying a part of the distal zooecium.
6. Edge view of a zoarium, showing four or five lateral septulae to a zooecium.
7. Drawing of the interior of a zooecium, illustrating the occurrence of the ovicell in the distal zooecia.

Middle Jacksonian: Lenuds Ferry, South Carolina.
Cat. No. 62586, U.S.N.M.

FIG. 8. *Cribrendoecium tenuicostulatum* Canu and Bassler, 1917 (p. 310).

View of the incrusting type-specimen, × 20, exhibiting the endozooecial ovicell and the numerous thin costules, separated by very small lacunae, and without lumen pores.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62588, U.S.N.M.

FIG. 9. *Figularia crassicostulata*, new species (p. 316).

The incrusting type-specimen, × 20. The hyperstomial ovicell and the larger size of the costules separate this from the preceding species.

Upper Jacksonian (Ocala limestone): Chipola River ,east of Marianna, Florida.
Cat. No. 64036, U.S.N.M.

FIGS. 10–13. *Acanthocella erinacea* Canu and Bassler, 1917 (p. 309).

10. A small fragment, × 20, with traces of the ovicell. Large lacunae separate the costules in this specimen.
11. Another zoarium, × 20, with one ovicelled zooecium.
12. View of a tangential section, × 40, illustrating the occurrence of a lumen and large lumen pores.
13. The incrusting zoarium, × 20, with zooecia lacking the ovicells.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62587, U.S.N.M.

FIG. 14. *Corbulipora collaris*, new species (p. 308).

A portion of the free, quadriserial, bifurcated zoarium, × 20, showing the occurrence of a collar about some of the zooecial apertures, formed by the union of the first three pairs of costules.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64035, U.S.N.M.

FIGS. 15–18. *Gastropella asperula*, new species (p. 321).

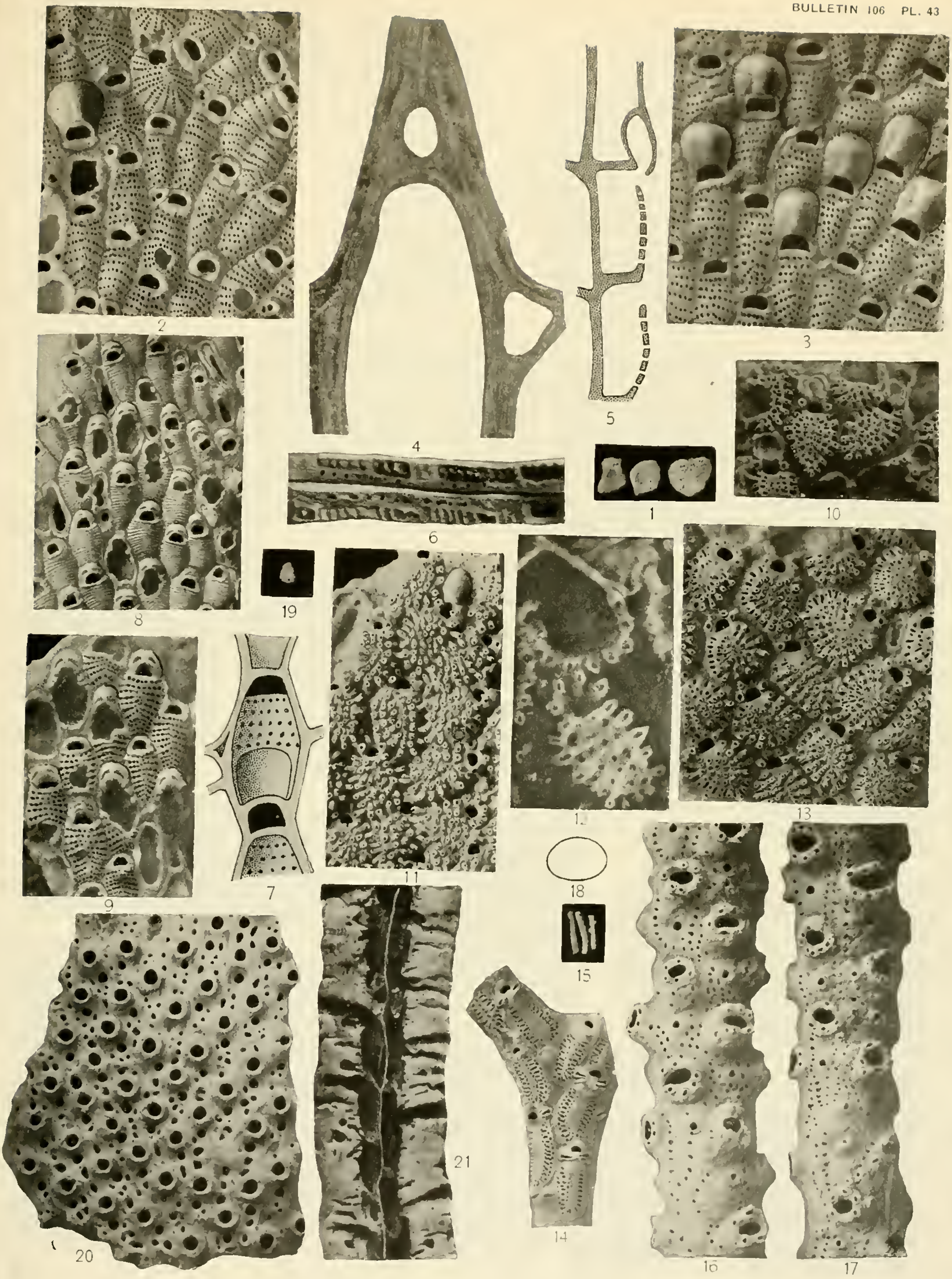
15. Three of the free cylindrical zoaria, natural size.
16. Surface of an example, × 20, showing the large ascopore in the middle of the frontal and the small areolae.
17. Another example, × 20, in which numerous small avicularia are developed on the peristome.
18. Sketch of apertura, × 70.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64037, U.S.N.M.

FIGS. 19–21. *Beisselina trulla*, new species (p. 324).

19. The free, bifoliate zoarium, natural size.
20. Surface, × 20, showing the large tubular tremopores and the still larger ascopore.
21. Vertical section, × 20.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64038, U.S.N.M.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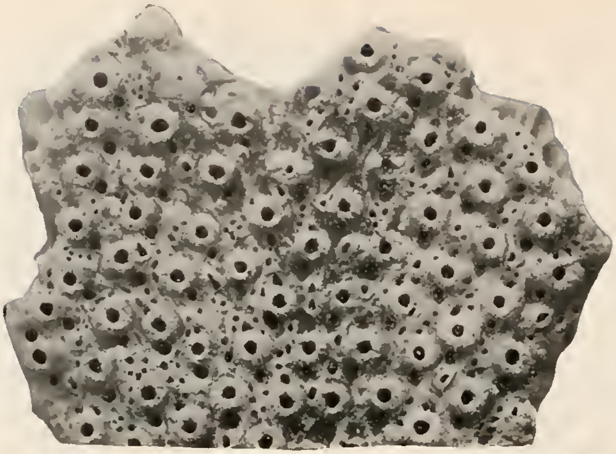
Jacksonian Cheilostomatous Bryozoa.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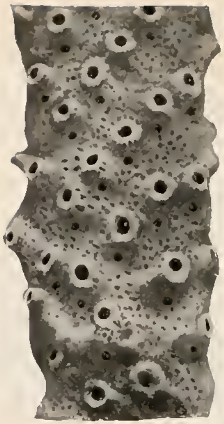
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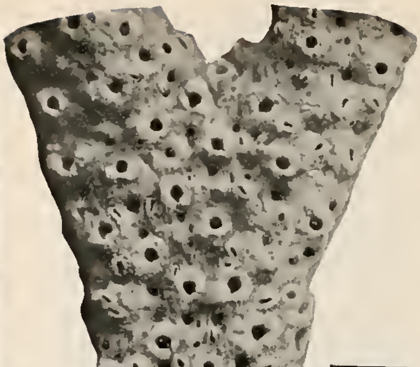
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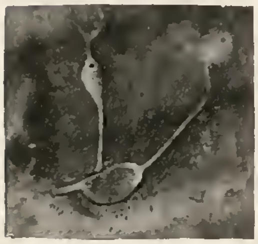
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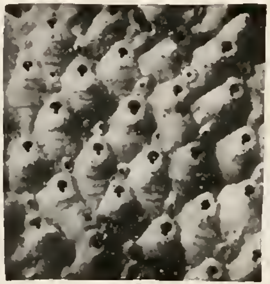
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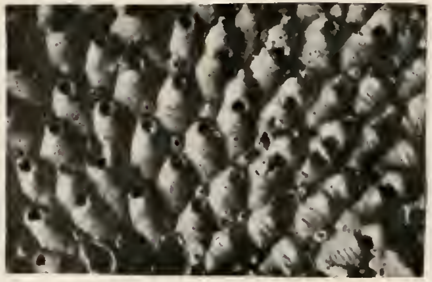
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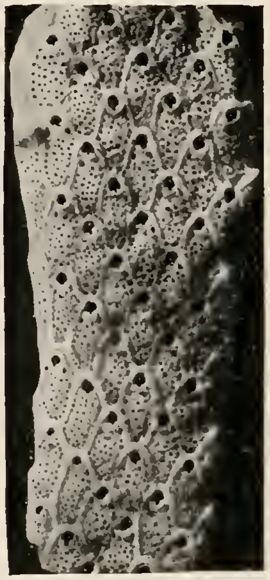
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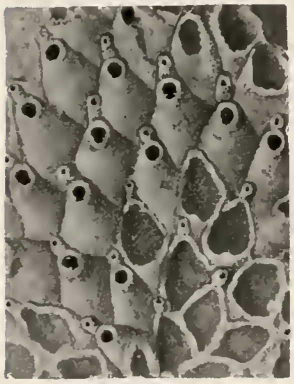
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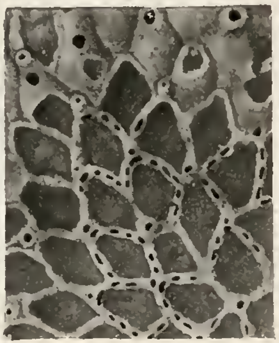
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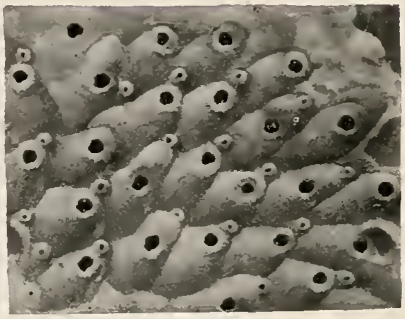
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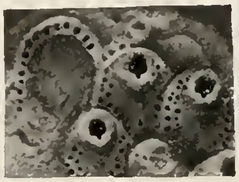
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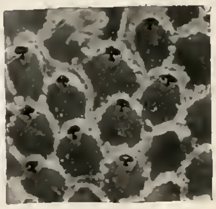
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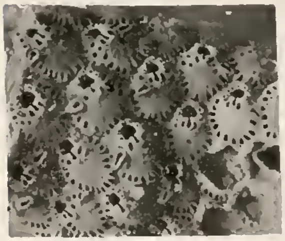
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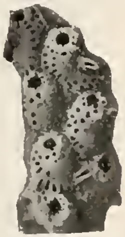
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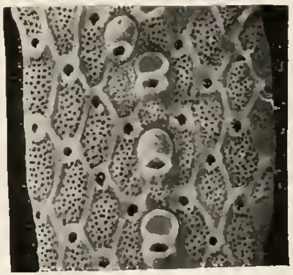
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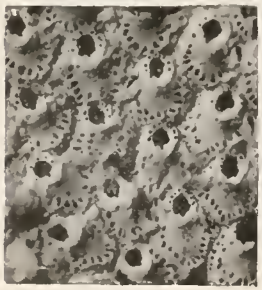
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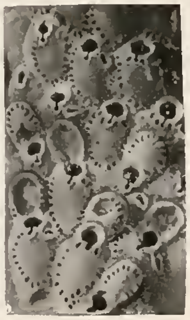
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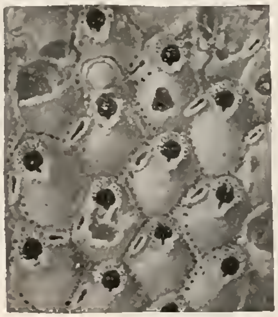
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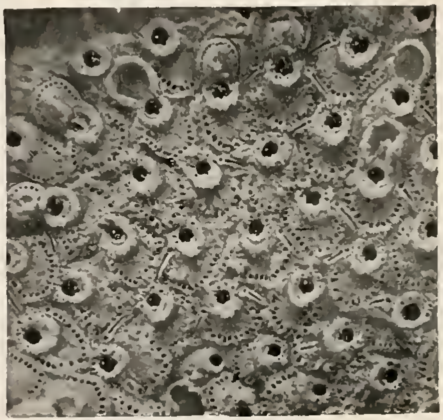
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 41.

FIGS. 1–4. *Beisselina implicata*, new species (p. 325).

1. Fragments of the narrow bifoliate zoarium, natural size.
2. Surface of a bifurcated fragment, × 20, showing the indistinct zooecia, ascopore, frontal pores and avicularia.
3. Another zoarium, × 20, possibly representing another species.

Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64039, U.S.N.M.

4. A zoarium, × 20, on which the avicularia are more numerous than usual.

Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.
Cat. No. 64040, U.S.N.M.

FIG. 5. *Hippothoa*, species indetermined (p. 327).

Specimen, × 20, preserving but a single entire zooecium.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64041, U.S.N.M.

FIGS. 6, 7. *Tryposteqa undulata*, new species (p. 329).

6. The incrusting zoarium, × 25, illustrating the undulations of the frontal and the infraoral gibbosity.
7. Portion of another zoarium, × 25, showing ovicelled zooecia.

Middle Jacksonian: Eighteen miles west of Wrightsville, Georgia.
Cat. No. 64042, U.S.N.M.

FIGS. 8–10. *Tryposteqa inornata* Gabb and Horn, 1862 (p. 329).

8. The incrusting zoarium, × 25, showing the nearly flat, smooth zooecial frontal.

Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
Cat. No. 64043, U.S.N.M.

9. An example, × 25, with abraded surface, showing the dietellae.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64044, U.S.N.M.

10. Another zoarium, ×25, with several ovicelled zooecia.

Vicksburgian (Marianna limestone): Deep well, Escambia County, Alabama.
Cat. No. 64045, U.S.N.M.

FIGS. 11, 12. *Schizopodrella marginata*, new species (p. 342).

11. The bifoliate type-specimen, × 20.
12. Portion of a specimen, × 20, with ovicelled zooecia in the center.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64046, U.S.N.M.

FIGS. 13–16. *Lacerna jacksonensis*, new species (p. 346).

13. The incrusting zoarium, × 20. The areolae and narrow, long rimule are well shown.
14. Surface with ovicelled zooecia, × 20. The ovicell is festooned with areolae.
15. A small incrustation of this species, × 20. The rimule is separated from the apertura.
16. Interior of frontal, × 20, showing the olocyst and the rimule of the aperture.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64047, U.S.N.M.

FIGS. 17–20. *Lacerna hexagonalis*, new species (p. 347).

17. Surface of the incrusting zoarium, × 20, showing the smooth olocystal frontal.

Vicksburgian (Glendon member of Marianna limestone): West bank Conecuh River, Escambia County, Alabama.
Cat. No. 64048, U.S.N.M.

18. Another zoarium, × 20, with areolae well developed, but the pleurocyst incomplete.
19. Several zooecia, × 20, one showing dietellae.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64049, U.S.N.M.

20. Well developed zoarium, × 20, in which the granular pleurocyst covers the olocyst. An ovicelled zooecium in the upper left-hand corner of the figure shows an avicularium replacing a normal polypide in total regeneration.

Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
Cat. No. 64050, U.S.N.M.

PLATE 45.

FIGS. 1–9. *Schizopodrella viminea* Lonsdale, 1845 (p. 342).

1. Three fragments of the bilamellar zoarium, natural size. The third specimen shows a lateral frond growing at right angles to the original one.
2. Surface of zooecia, with thickened frontal, × 20, in which the oral sinus has disappeared.
3. A zoarium showing the usual aspect of the zooecia, × 20. The rimule and avicularia directed outward are shown.

4, 5. Two surfaces of ovicell bearing zooecia, × 20. The ovicells are smooth.

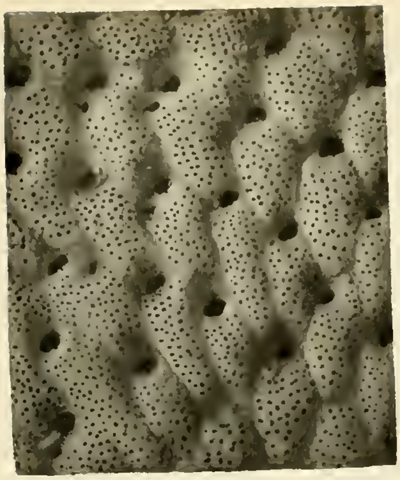
6. A tangential thin section, × 100, including an avicularium.
7. Sketch of longitudinal section, × 70, through a zooecium with ovicell.
ap, apertura; *or or*, orifice of ovicell; *ov*, ovicell; *s*, septula; *tr*, tremocyst; *z*, zooecium.
8. View of the interior, × 20. The oral sinus is well marked and the avicularia are present.
9. Tangential thin section of a zooecium, × 100, showing microstructure of the tremocyst.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64051, U.S.N.M.

FIGS. 10–18. *Schizopodrella linea* Lonsdale, 1845 (p. 340).

10. Two fragments of the bifoliate zoarium, natural size.
11. Portion of a zoarium, × 20, showing the structure of the ovicells.
12. Narrow zooecia without ovicells, × 20.
13. Wide zooecia, × 20.
14. Surface of zooecia without ovicells, × 20. The separating thread is well developed.
15. Portion of a zoarium, × 20, with ovicelled zooecia.
16. Tangential thin section through the frontal, × 20, illustrating structure of the tremocyst.
17. View of the interior, × 20, showing the perforated olocyst.
18. Sketch of vertical section, × 20, passing through two ovicelled zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64052, U. S. N. M.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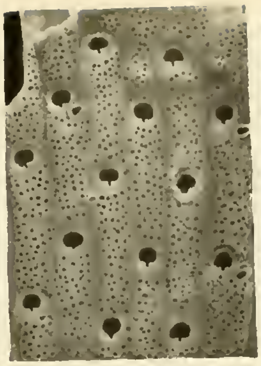
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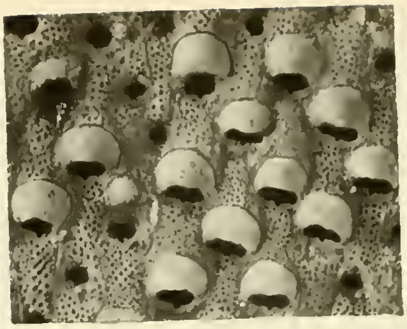
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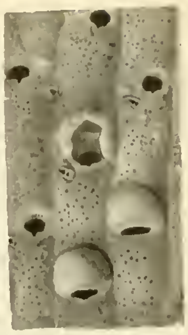
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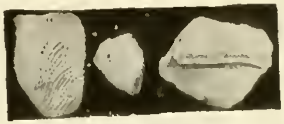
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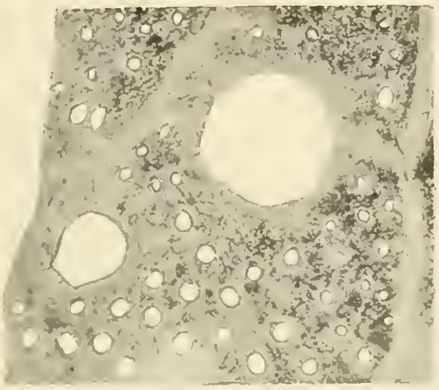
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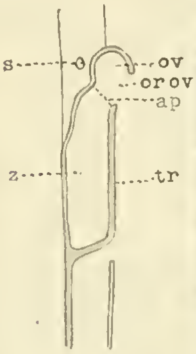
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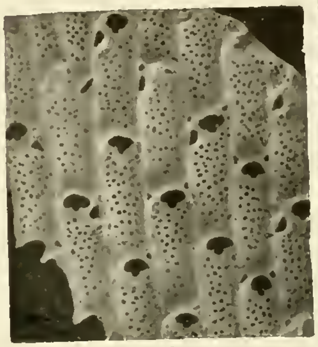
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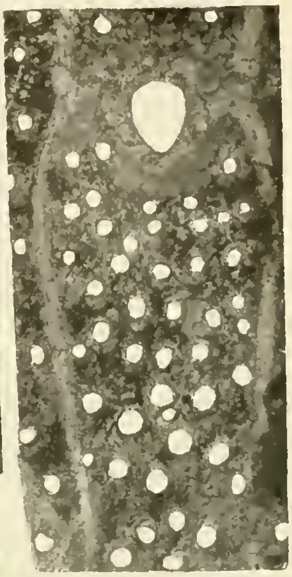
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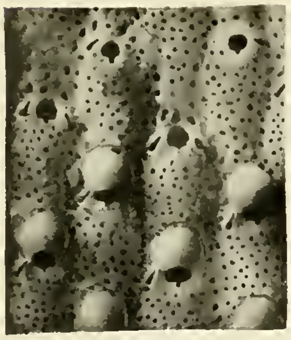
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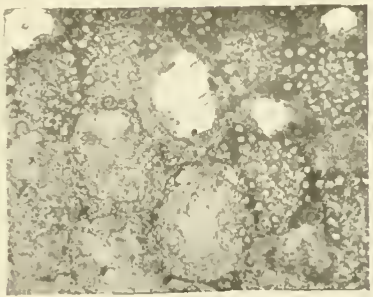
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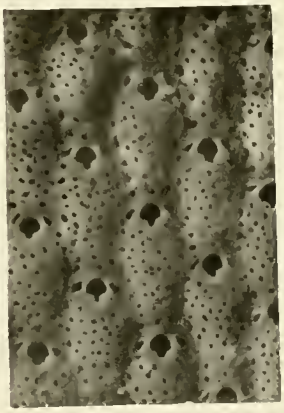
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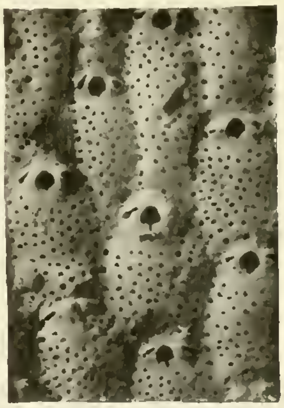
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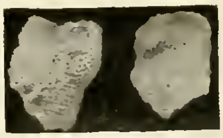
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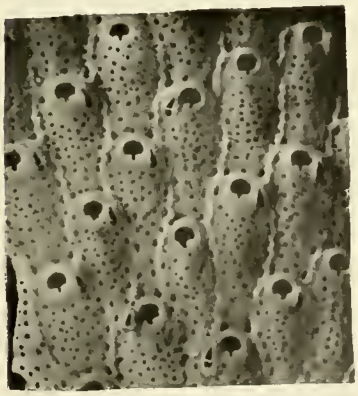
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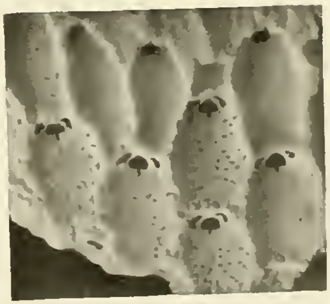
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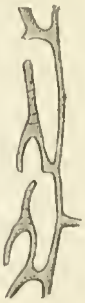
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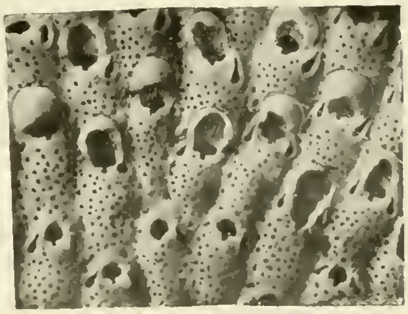
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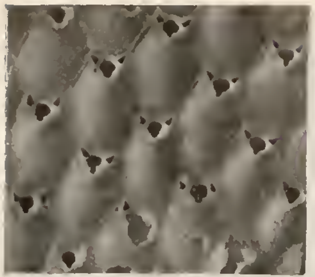
Jacksonian Cheilostomatous Bryozoa.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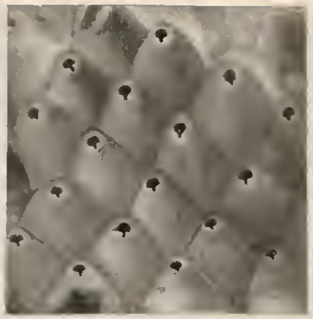
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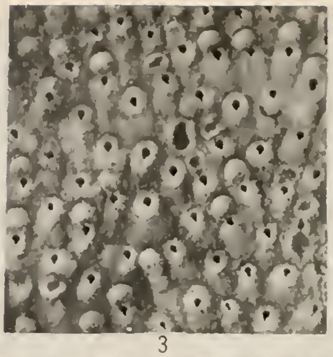
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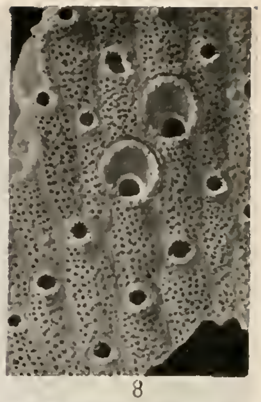
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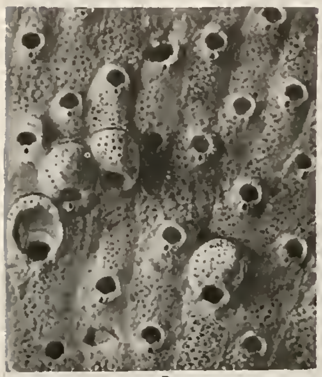
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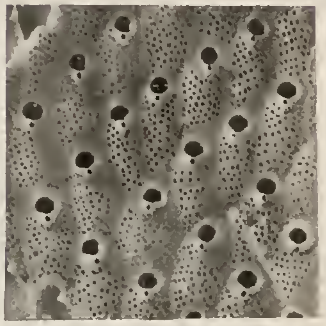
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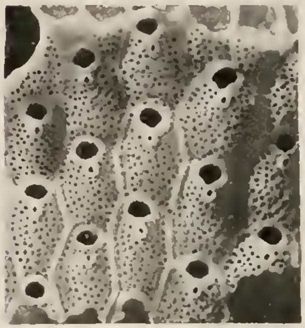
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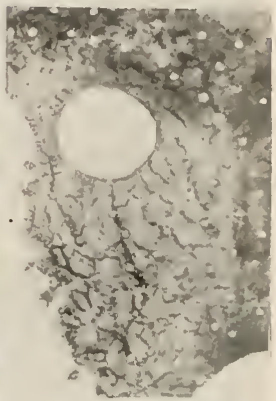
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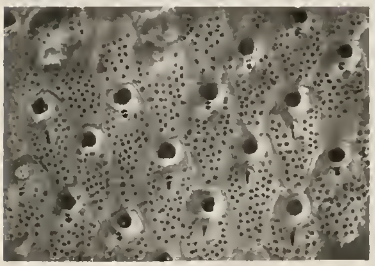
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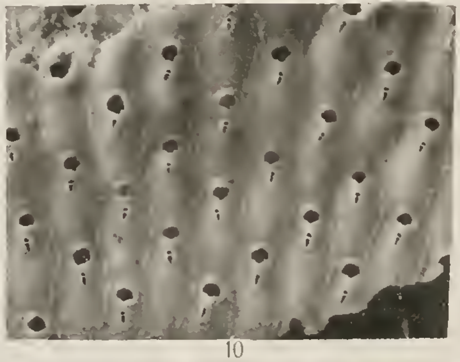
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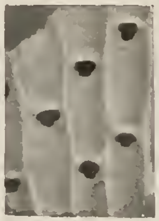
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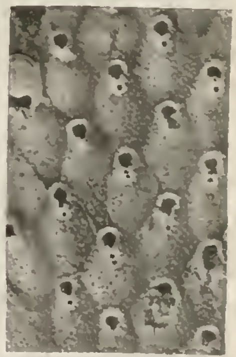
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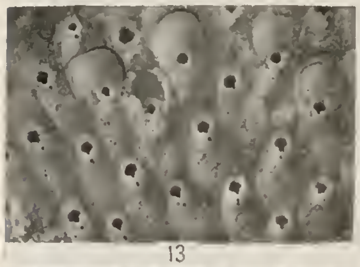
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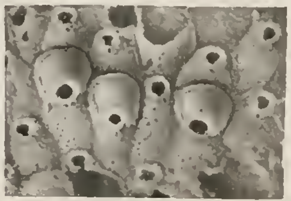
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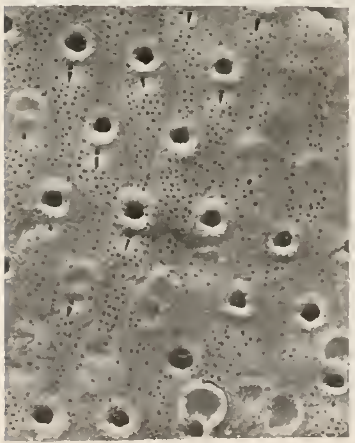
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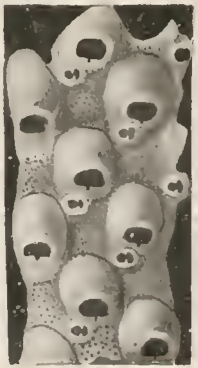
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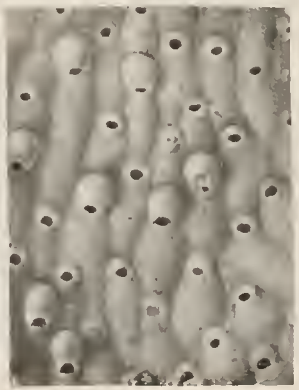
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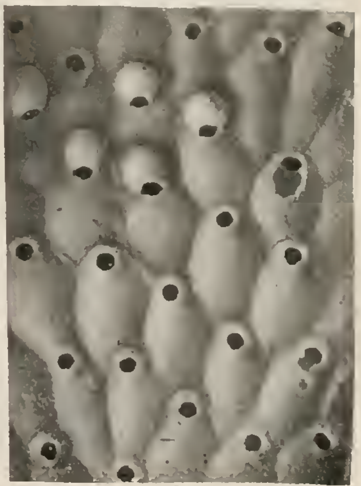
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Jacksonian Cheilostomatous Bryozoa.

PLATE 46.

FIG. 1. *Buffonella hexagonalis*, new species (p. 349).

Surface of the incrusting zoarium. × 20. The zooecia are hexagonal, have a smooth frontal and are separated by a salient thread.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64053, U.S.N.M.

FIG. 2. *Buffonella rhomboidalis*, new species (p. 350).

Photograph of the incrusting zoarium, × 20, exhibiting the rhomboidal zooecia separated by a furrow.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64054, U.S.N.M.

FIG. 3. *Buffonella microstoma*, new species (p. 350).

Portion of the incrusting zoarium, × 20. The very small apertura with wide triangular rimule and the convex frontal are distinctive characters.

Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.

Cat. No. 64055, U.S.N.M.

FIGS. 4–12. *Schizomarella granulifera*, new species (p. 355).

4. Three fragments of the bilamellar zoarium, natural size.
5. Zooecia, × 20, with the frontal granulation and the separating ridge quite prominent.
6. A specimen, × 20, in which the zooecial margins are not elevated. The avicularium is very close to the aperture.

   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

   Cat. No. 64056, U.S.N.M.
7. An example, × 20, with ovicelled zooecia. The broken ovicell shows that it covered much of the apertura.

   Middle Jacksonian: Rich Hill, Crawford County, Georgia.

   Cat. No. 64057, U.S.N.M.
8. A fragment. ×20, with salient frontal granulations and no bordering ridge. Two zooecia have ovicells (broken).
9. Ordinary zooecia, × 20, exhibiting both rounded and pointed avicularia The avicularium is far removed from the aperture.
10. An example, × 20, in which the granulations are scarcely visible. The zooecia are much elongated.
11. View of the interior of the zooecia, × 20, showing the smooth olocyst and the shape of the apertura.
12. Tangential thin section, × 100, illustrating structure of the frontal wall and showing the tremocyst placed on the olocyst.

    Middle Jacksonian: Baldock, Barnwell County, South Carolina.

    Cat. No. 64058, U.S.N.M.

FIGS. 13–16. *Schizomarella granulosa*, new species (p. 356).

13. Surface of the incrusting zoarium, × 20, with both ordinary and ovicelled zooecia.
14. Portion of surface, × 20. The bordered ovicell, entirely surrounding the aperture, is quite visible.
15. Several ordinary zooecia, × 20, one of which has been replaced by a regenerated avicularian zooecium.
16. Zooecia, × 20, in which the granular surface is well preserved.

    Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.

    Cat. No. 64059, U.S.N.M.

FIG. 17. *Schizomarella elongata*, new species (p. 357).

Surface of the bilamellar type-specimen, × 20. Several calcified zooecia may be noted. The great length of the zooecia and the position of the median avicularium in a cavity are also to be observed.

Middle Jacksonian: Three and one-half miles north of Grovania, Georgia.

Cat. No. 64060, U.S.N.M.

FIG. 18. *Arthropoma metula*, new species (p. 352).

The bilamellar type specimen, × 20, with only ovicelled zooecia developed.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64061, U.S.N.M.

FIG. 19. *Dakaria brevis*, new species (p. 360).

The laminar incrusting zoarium, × 20, showing ovicelled and ordinary zooecia. Several calcified zooecia are developed.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64062, U.S.N.M.

FIG. 20. *Dakaria laxata*, new species (p. 360).

The incrusting zoarium, × 20. The large zooecia and absence of avicularia are to be noted.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64063, U.S.N.M.

PLATE 47.

FIGS. 1, 2. *Metroperiella ? albora*, new species (p. 361).

1. The unilamellar zoarium, × 20. The small median avicularium, the white peristome and the four large tremopores about the apertura are the specific features.
2. Sketch of the apertura.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64064, U.S.N.M.

FIGS. 3–6. *Metroperiella grandipora*, new species (p. 362).

3. Ordinary and ovicelled zooecia of the incrusting zoarium. × 20. The frontal area of the latter is usually lost in fossilization.
4. Small portion of an example with broad zooecia. × 20.
5. Basal side of zoarium. × 20, with hydrostatic tuberosities.
6. Surface of zoarium, × 20, exhibiting long zooecia. The avicularian zooecia with vestibular arch are visible near the top of the figure.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64065, U.S.N.M.

FIGS. 7–11. *Metroperiella porosa*. new species (p.362).

7. Fragment of the free, bilamellar zoarium, natural size.
8. Normal zooecia, × 20, bounded by a salient thread. Two avicularian zooecia and a calcified one between them are to be noted in the upper part of the figure.
9. Another surface, × 20, with broken ovicells and long avicularia.
10. An example, × 20, showing normal and ovicelled zooecia.
11. Zooecia, × 20, preserving avicularia with a very long beak.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64066, U.S.N.M.

FIGS. 12–19. *Metroperiella biplanata* Canu and Bassler, 1917 (p. 361).

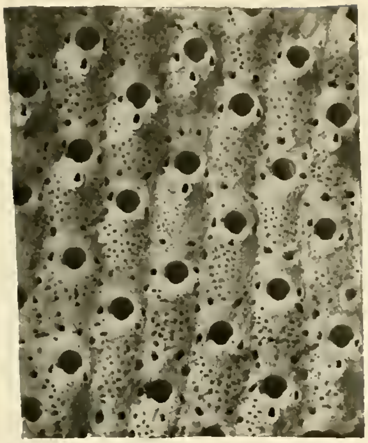
12. Wide zooecia. × 20, with salient margins. The avicularia are broken.
13. Fragments of the bilamellar zoarium, natural size.
14. Normal fusiform zooecia. × 20. The pores of the frontal are very small.
15. A well preserved zoarium, × 20, exhibiting normal, ovicelled and closed zooecia. The ovicell completely surrounds the apertura.
16. Elongate zooecia with marginal elevations, × 20. A crescent-shaped cicatrix of unknown use is above many of the zooecia.

17–19. Three sketches of the apertura. × 72. showing variation in outline.

Middle Jacksonian (Castle Hayne limestone): Wilmington. North Carolina.
Cat. No. 62590. U.S.N.M.

FIG. 20. *Metroperiella latipora*, new species (p. 365).

The bilamellar zoarium, × 20, with normal and ovicelled zooecia.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 64067. U.S.N.M.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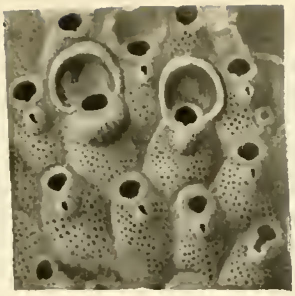
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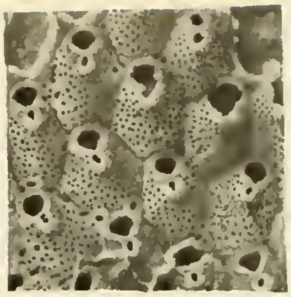
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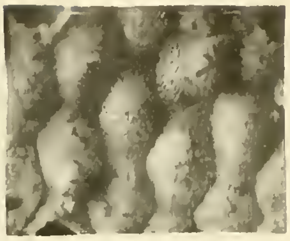
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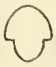
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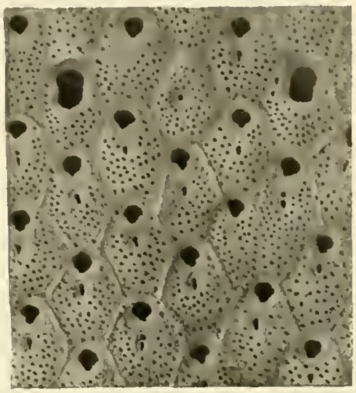
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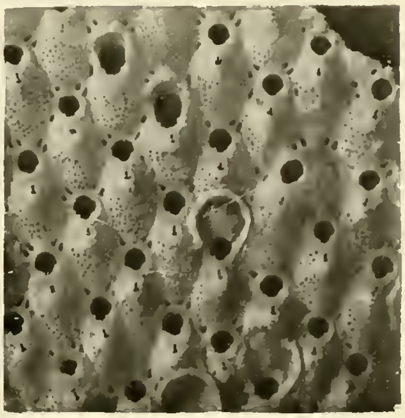
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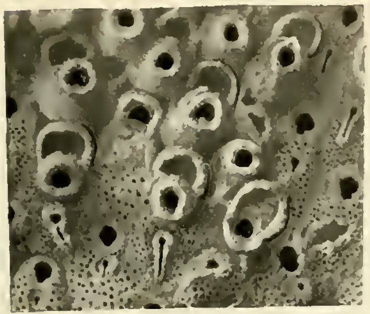
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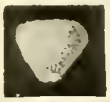
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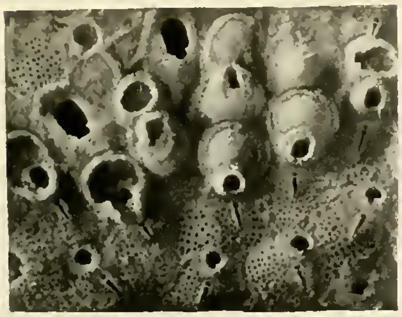
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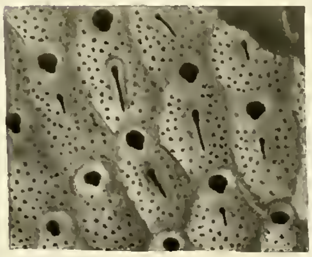
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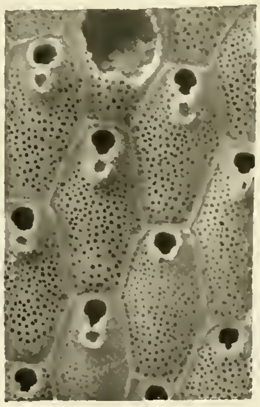
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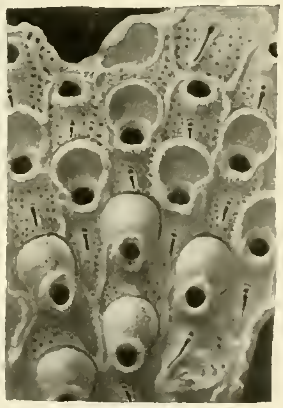
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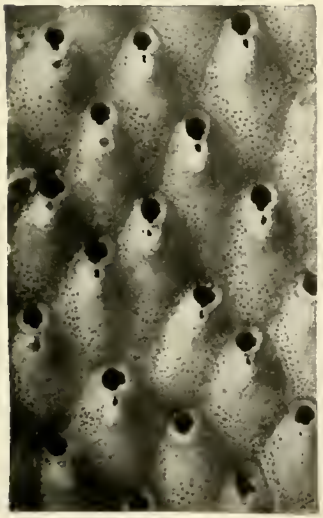
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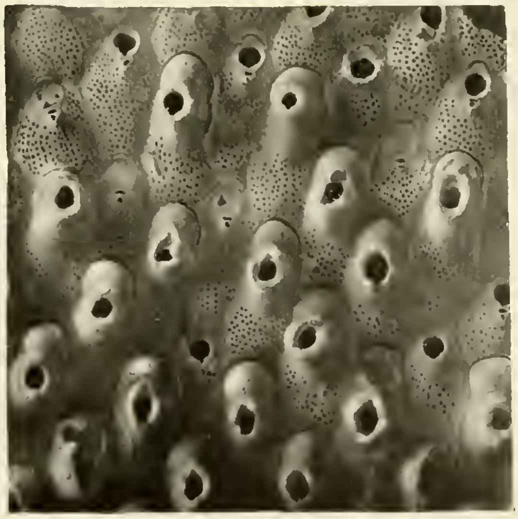
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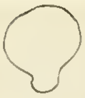
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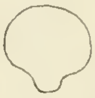
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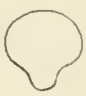
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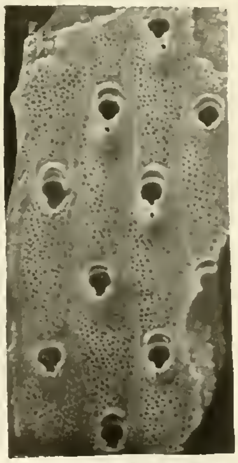
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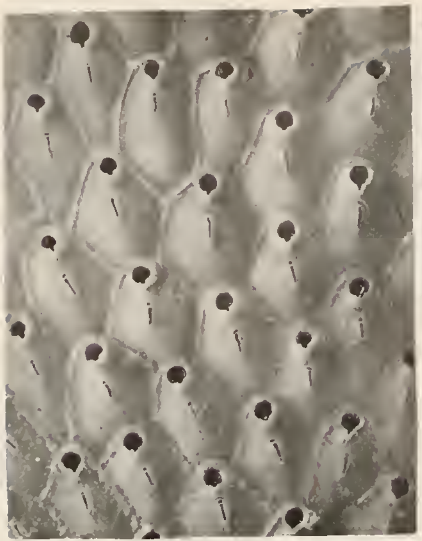
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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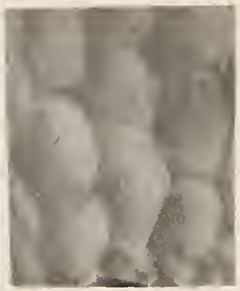
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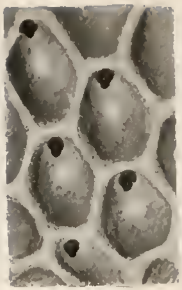
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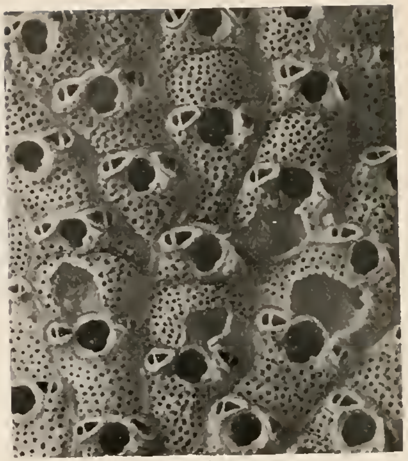
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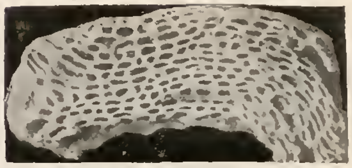
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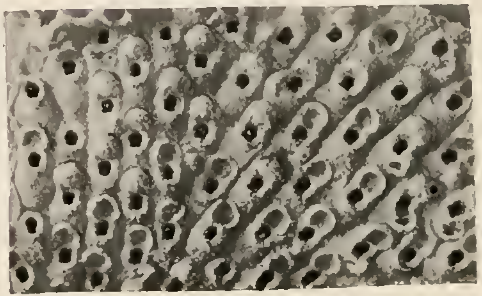
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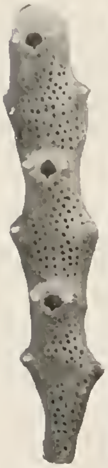
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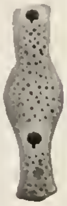
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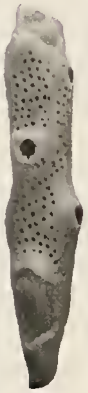
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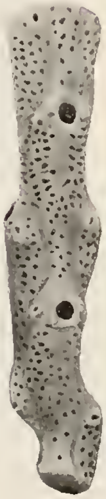
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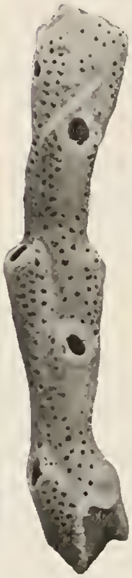
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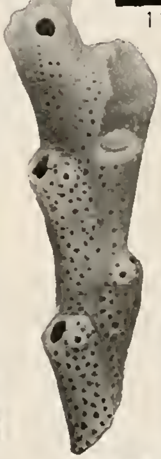
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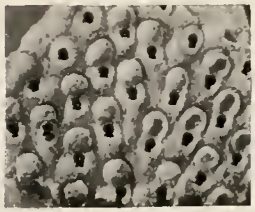
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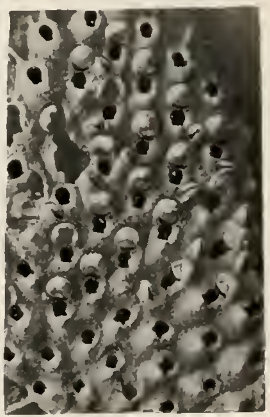
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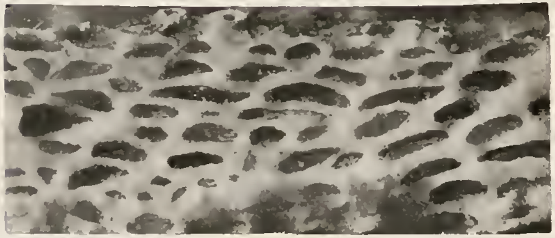
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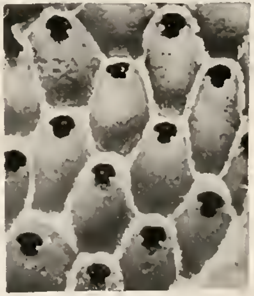
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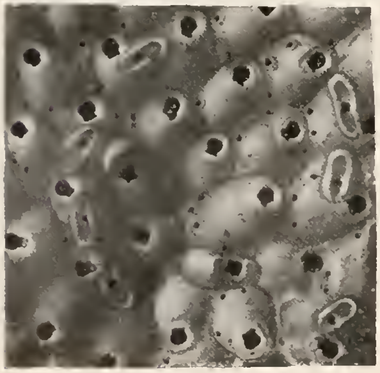
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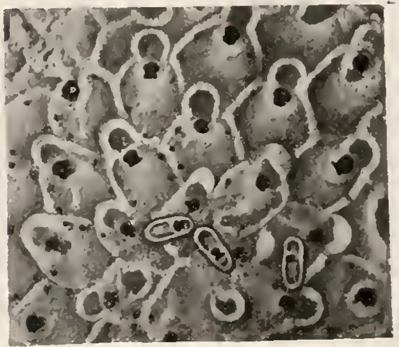
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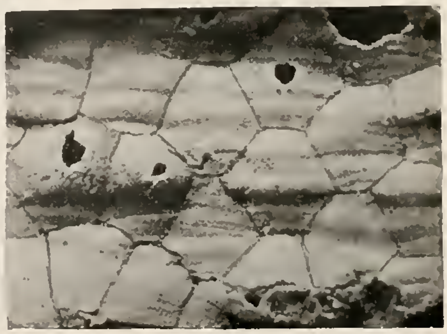
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 48.

FIGS. 1–5. *Metroperiella acervata*, new species (p. 365).
1. A fragment of the multilamellar zoarium, natural size.
2. Surface of the same specimen, × 20. The hexagonal zooecia with smooth frontal, and salient bordering thread are to be noted.
3. Basal surface of zooecia, × 20.
4. View of the interior, × 20, showing the rimule, smooth frontal and place of avicularium.
5. Edge view of a zoarium, × 5, showing the many superimposed zooecial layers.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64068, U.S.N.M.

FIG. 6. *Emballotheca laticapitata*, new species (p. 366).
Surface of the free bilamellar zoarium, × 20. The ovicell is enormous and occupies a large part of the distal zooecium.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64069, U.S.N.M.

FIGS. 7–10. *Tetraplaria tuberculata*, new species (p. 368).
7. Four segments, natural size.
8. A well preserved segment, × 20, with the oral tubercules prominent.
9, 10. Two fragments, × 20, showing the appearance when slightly worn.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64070, U.S.N.M.

FIGS. 11–14. *Tetraplaria caudifera*, new species (p. 368).
11. Three segments, natural size.
12–14. The same specimens, × 20, illustrating three aspects of the species.
Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64071, U.S.N.M.

FIGS. 15–17. *Hippoporina lucens*, new species (p. 376).
15. The incrusting zoarium, × 20, with frontal covered by a calcareous deposit.
Vicksburgian ("Chimney rock" of Marianna limestone) One mile north of Monroeville, Alabama.
Cat. No. 64072, U.S.N.M.
16. Zooecia, × 20, showing shape of the apertura clearly.
Upper Jacksonian (Ocala limestone): Bainbridge, Georgia.
Cat. No. 64073, U.S.N.M.
17. The incrusting zoarium, × 20. The broken ovicells show two distinct layers.
Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 64074, U.S.N.M.

FIGS. 18–22. *Hippoporella multilamellosa*, new species (p. 378).
18. Edge view of the many-layered zoarium, × 20.
19. Surface, × 20, illustrating form of apertura, occurrence of areolae and avicularia.
20. Surface view of ovicelled zooecia, × 20, with several spatulate avicularia.
21. Interior of zooecia, × 20, showing the two salient condyles of the apertura.
22. Basal side of zoarium, × 20, exhibiting hexagonal zooecia transversely striated.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64075, U.S.N.M.

PLATE 49.

FIGS. 1–3. *Hippoporina biporosa*, new species (p. 377).

1. Normal and ovicelled zooecia of the incrusting zoarium, × 20, showing shape of aperture and occurrence of the avicularia.
2. Another portion of the same zoarium, × 20.
3. The ancestrula and surrounding zooecia, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64076, U.S.N.M.

FIGS. 4–14. *Hippomenella rotula*, new species (p. 381).

4. Fragment of the bifoliate zoarium, × 20, preserving several monstrous zooecia similar to the cumulate zooecia of the Celleporidae.
5. Portion of a zoarium, × 20, with narrow zooecia, salient mucro and no avicularia.
6. Another fragment, × 20, exhibiting avicularia and wide zooecia.
7. Very large ovicelled zooecia, × 20.
8. Ordinary and ovicelled zooecia, × 20, with avicularia.
9. Ordinary zooecia wider than usual, × 20.
10. Interior of the zooecia, × 20 showing the olocyst and tremocyst and the form of the aperture.
11. Tangential thin section, × 25, through zooecia without avicularia.
12. A tangential thin section, × 25, in which the mucro and the avicularia are visible. In this and the preceding figure the structure of the olocyst and tremocyst is quite plain.
13. Tangential thin section of several zooecia, × 100.
14. Three fragments of the bifoliate zoarium, natural size.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64077, U.S.N.M.

FIGS. 15–17. *Hippomenella transversata*, new species (p. 382).

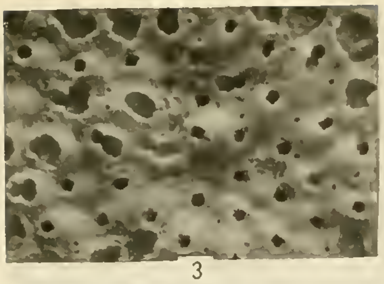
15. Fragmentary portion of the bilamellar zoarium, natural size.
16. Ordinary zooecia, × 20, showing the decidedly transverse arrangement of the avicularia.
17. Another zoarium, × 20, preserving several broken ovicells.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64078, U.S.N.M.

FIGS. 18, 19. *Hippomenella angustaedes*, new species (p. 383).

18. The narrow, free, bifoliate zoarium, natural size.
19. Portion of the same specimen, × 20. There are four to six spines on the peristome.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64079, U.S.N.M.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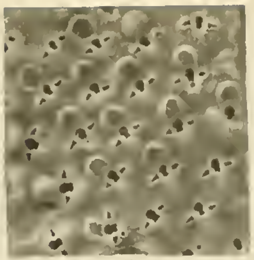
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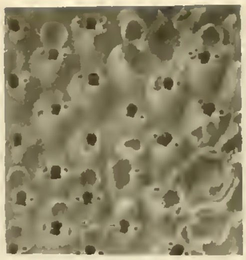
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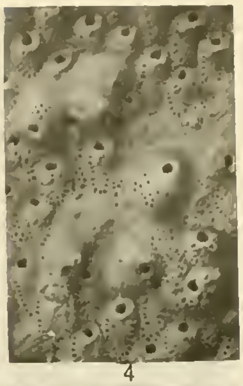
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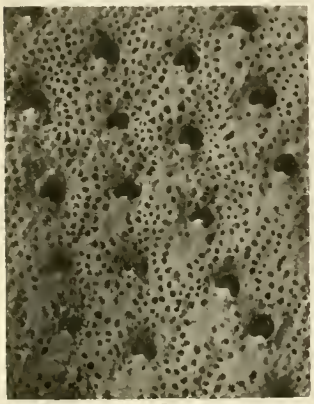
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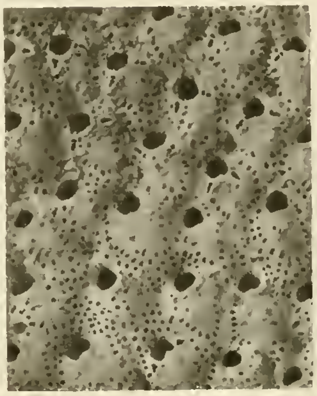
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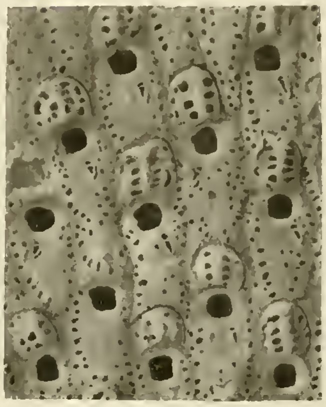
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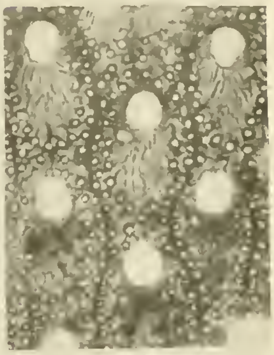
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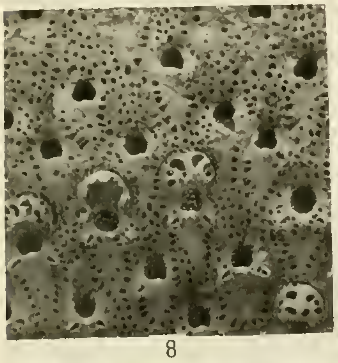
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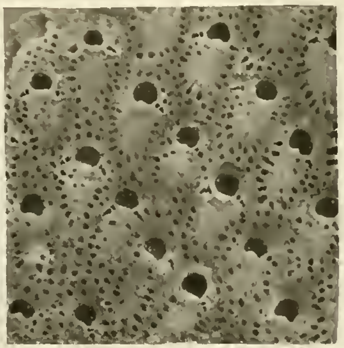
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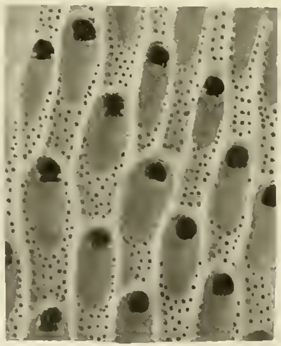
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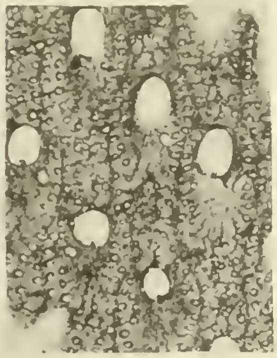
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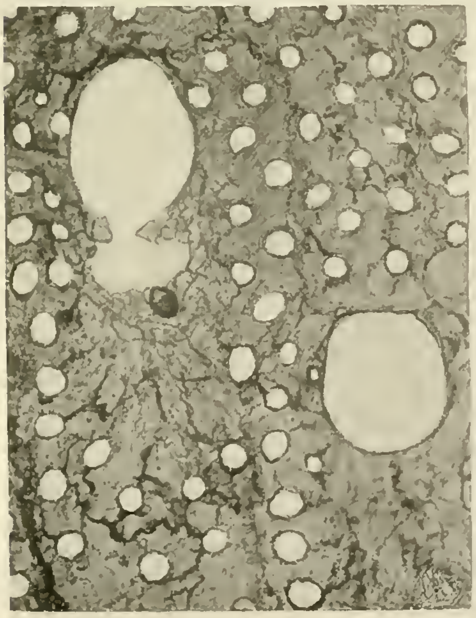
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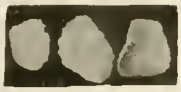
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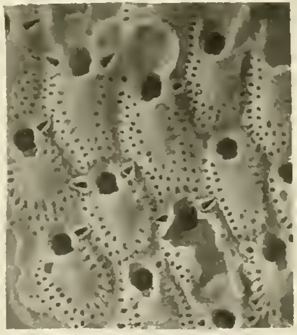
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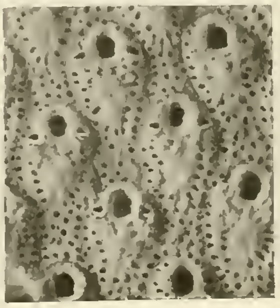
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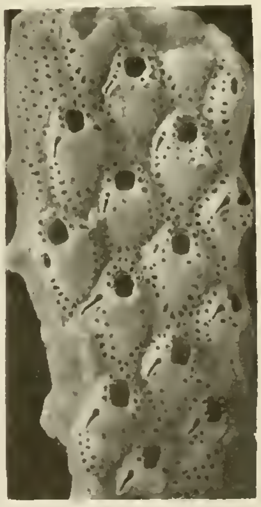
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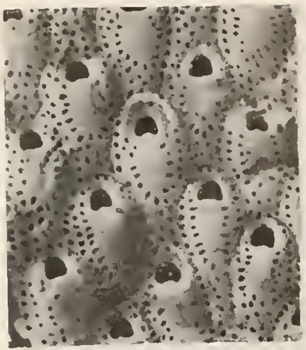
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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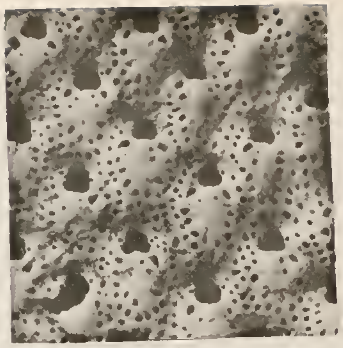
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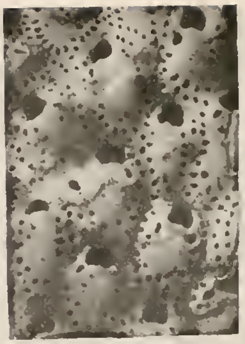
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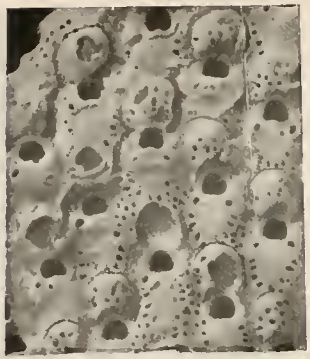
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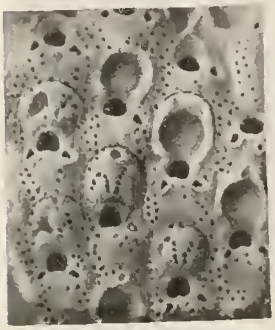
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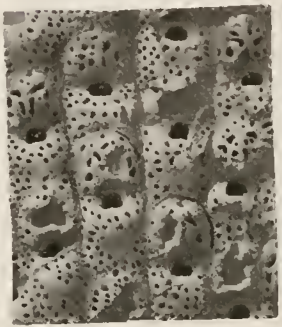
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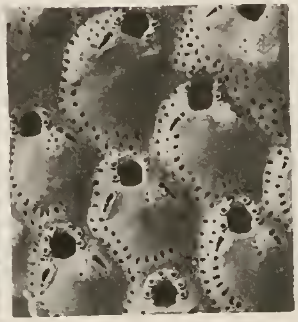
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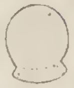
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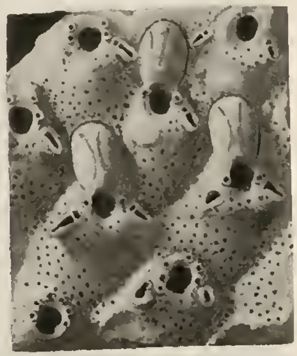
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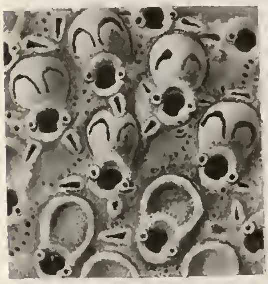
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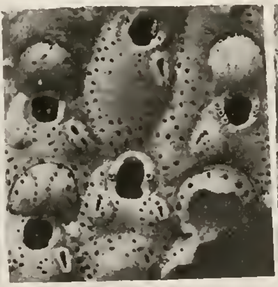
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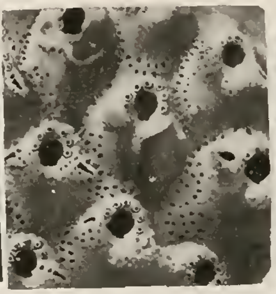
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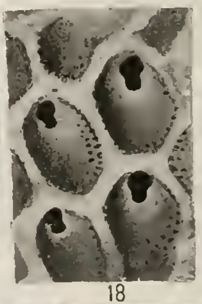
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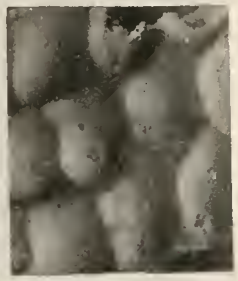
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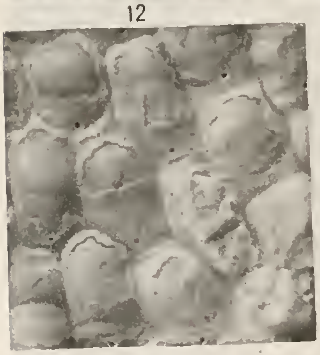
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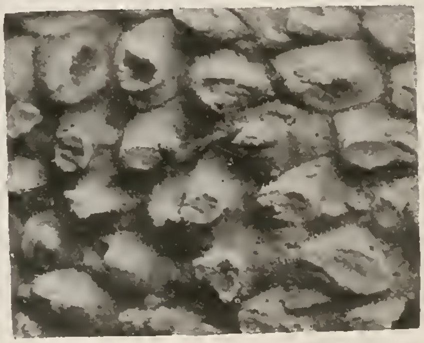
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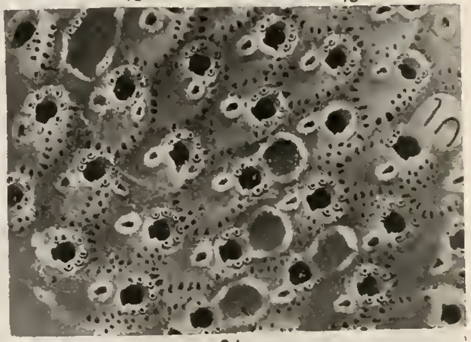
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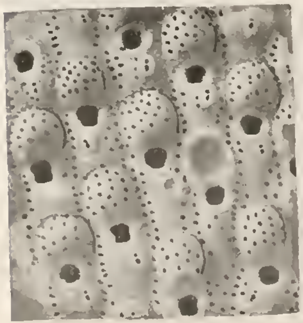
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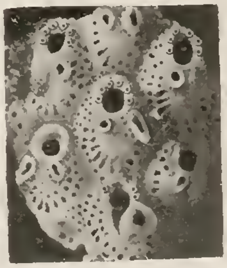
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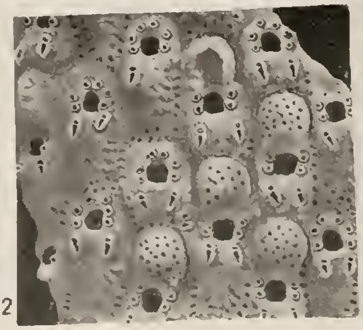
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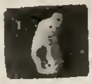
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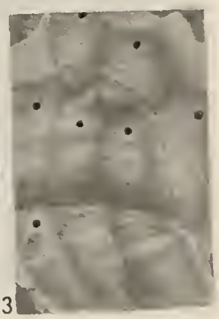
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 50.

FIGS. 1–8. *Hippomenella incondita*, new species (p. 383).

1. Fragments of the free bilamellar zoarium, natural size.
2. A zoarium with long zooecia, × 20. Lateral avicularia are wanting.
3. Short zooecia, × 20.
4. Zooecia, × 20, with an avicularian monstrosity developed.
5. Ovicelled zooecia, × 20, showing the usual aspect.
   Middle Jacksonian: Rich Hill, Georgia.
   Cat. No. 64080, U.S.N.M.
6. Ovicelled zooecia, × 20, in which the two lateral primitive areas are visible.
   Middle Jacksonian: 17 miles northeast of Hawkinsville, Georgia.
   Cat. No. 64081, U.S.N.M.
7. Ovicelled zooecia, × 20, with the usual irregular punctations on the ovicells.
8. Sketch of the interior of an apertura, illustrating the mucronoid protuberance and the cardelles.
   Middle Jacksonian: Three and one-half miles north of Grovania, Georgia.
   Cat. No. 64082, U.S.N.M.

FIGS. 9–18. *Hippomenella alifera*, new species (p. 386).

9. Small fragments of the unilamellar zoarium, natural size.
10. Normal zooecia, × 20, in which the areolae are arranged in two or three rows and the avicularia are short and irregularly arranged.
11. Normal and ovicelled zooecia, × 20. The frontal is almost covered with areolae, the ovicells are pyriform, and the avicularia are large and winglike.
12. Zooecia, × 20, with globular ovicells on which the two areas are well marked.
13. Normal and ovicelled zooecia, × 20.
14. Normal zooecia, × 20, in which the spines and the avicularian protuberances are well developed.
15. Smooth lower face of zoarium, × 20.
16. Dorsal of zoarium, × 20, showing the two layers, olocyst (inner) and pleurocyst (outer).
17. An example, × 20, in which large hydrostatic tuberosities occur.
18. View of the interior, × 20, showing the larger porta separated from the smaller vanna by two cardelles.
    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
    Cat. No. 64083, U.S.N.M.

FIGS. 19–24. *Hippomenella radicata*, new species (p. 387).

19. The unilamellar zoarium, natural size, which has grown about an alga.
20. Ovicelled zooecia, × 20, in which the two areas of the ovicell are replaced by punctations.
21. Normal zooecia, × 20, with and without interareolar costules.
22. Normal and ovicelled zooecia, × 20, with symmetrical avicularia.
23. Lower face of zooecia, × 20, transversely striated and pierced by a pore.
    Lower Jacksonian (Moodys marl): Jackson, Mississippi.
    Cat. No. 64084, U.S.N.M.
24. Zoarium, × 20, showing zooecia with well-developed spines and vestibular arch. The single ovicell intact exhibits the two areas. This is the most usual aspect.
    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
    Cat. No. 64085, U.S.N.M.

Plate 51.

Figs. 1–3. *Hippomenella punctata*, new species (p. 389).

1. The incrusting zoarium, natural size, growing over a bryozoan.

2. Surface of the same, × 20. The areolae and the spines on the peristome are quite distinct.

3. Portion of a zoarium incrusting a shell, × 20, showing ovicelled zooecia.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.

Cat. No. 64086, U.S.N.M.

Figs. 4, 5. *Hippomenella tuberosa*, new species (p. 391).

4, 5. Surface of the incrusting type-specimen, × 20, and the same, natural size. The frontal tuberosities are plainly shown.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64087, U.S.N.M.

Figs. 6–9. *Hippomenella ligulata*, new species (p. 390).

6. The typical form of the incrusting zoarium, × 20, with avicularium removed from the aperture, and quite projecting.

7. Basal surface of zoarium, × 20. Some of the zooecia are smooth and others have a hydrostatic projection.

8. Zoarium of the typical form with ovicelled zooecia, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64088, U.S.N.M.

9. A well preserved example, × 20. The erect mucro and the characters of the ovicell are to be noted. This probably represents a variation with avicularia close to the aperture.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.

Cat. No. 64089, U.S.N.M.

Figs. 10–13. *Hippomenella aviculata*, new species (p. 391).

10. Small incrusting zoarium, natural size.

11. Surface of the same, × 10.

12. Portion of figure 11, × 20, showing variation in form and elevation of the mucro.

13. Another zoarium, × 20, with ovicelled zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64090, U.S.N.M.

Figs. 14–19. *Hippomenella crassicollis*, new species (p. 391).

14. The incrusting zoarium, × 20, showing the normal aspect of the zooecia.

Vicksburgian (Marianna limestone): Near Claiborne, Monroe County, Alabama.

Cat. No. 64091, U.S.N.M.

15. Zooecia, × 20, without ovicells, and little calcified. The avicularia are small.

Vicksburgian (Byram marl): Near Woodwards, Wayne County, Mississippi.

Cat. No. 64092, U.S.N.M.

16. Zooecia, × 20, with the frontal strongly calcified but with the avicularia regularly placed and the peristomial spines quite visible.

Upper Jacksonian (Ocala limestone): Alachua, Florida.

Cat. No. 64093, U.S.N.M.

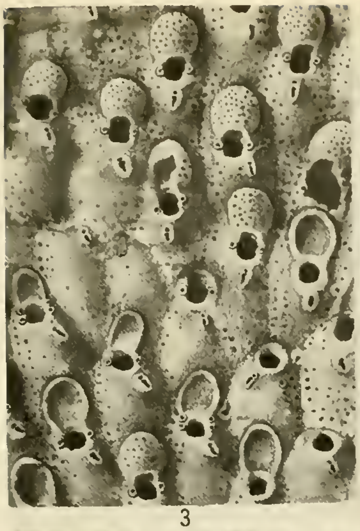
17. Portion of a zoarium, × 20, with intense pleurocystal calcification. The avicularia are irregularly placed.

18. Zooecia, × 20, with costulate ovicells.

19. A zoarium, × 20, in which the avicularia are of unequal prominence and are irregularly arranged.

Vicksburgian (Marianna limestone): Near Claiborne, Monroe County, Alabama.

Cat. No. 64091, U.S.N.M.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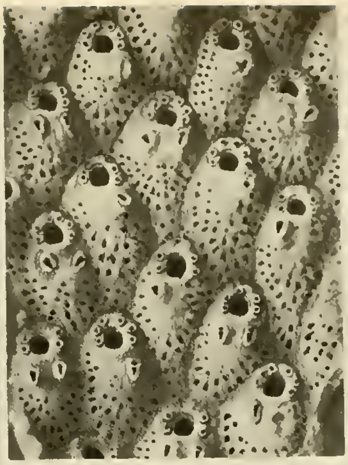
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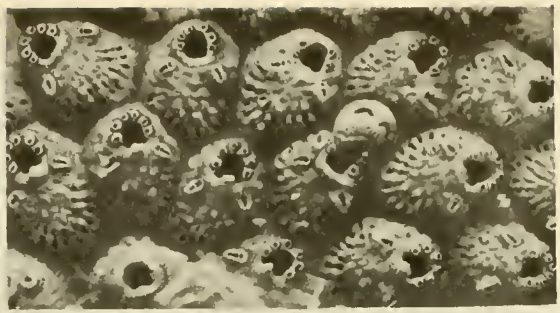
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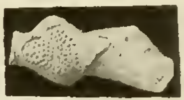
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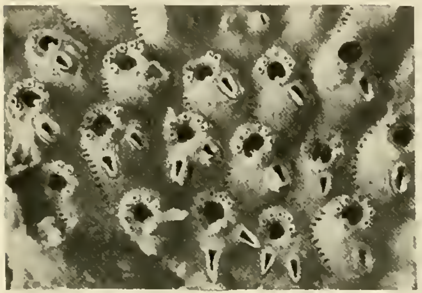
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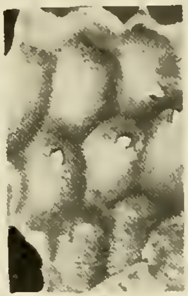
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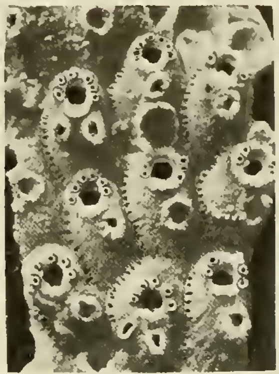
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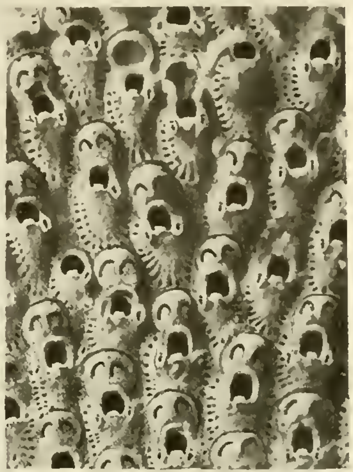
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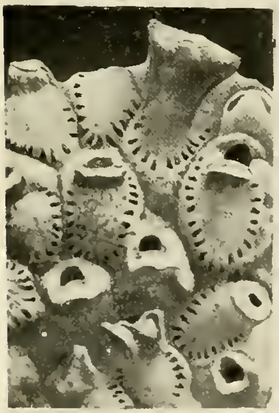
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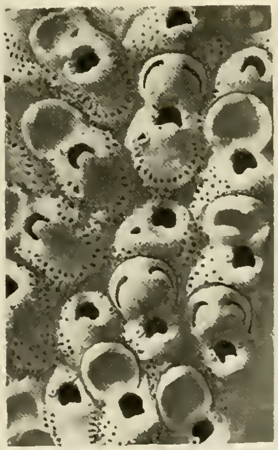
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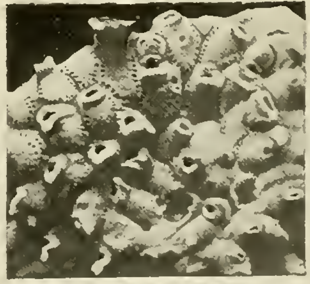
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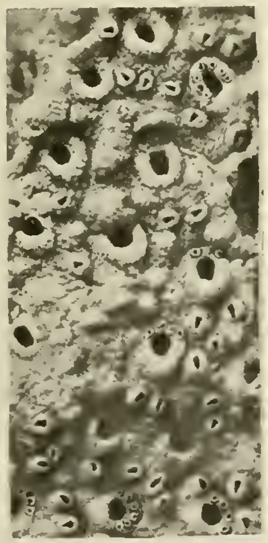
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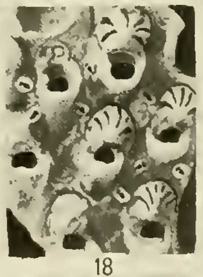
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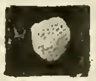
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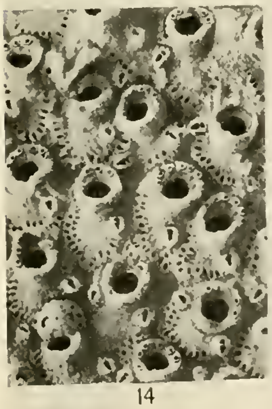
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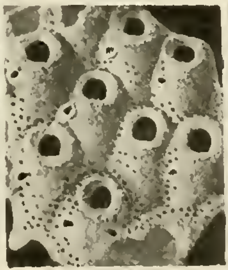
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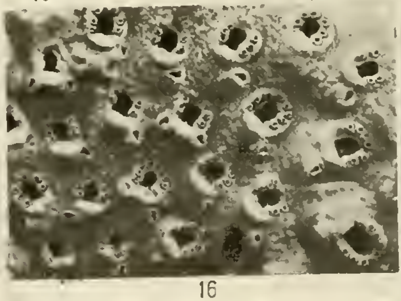
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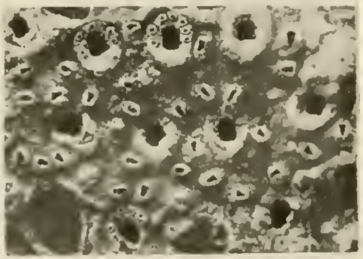
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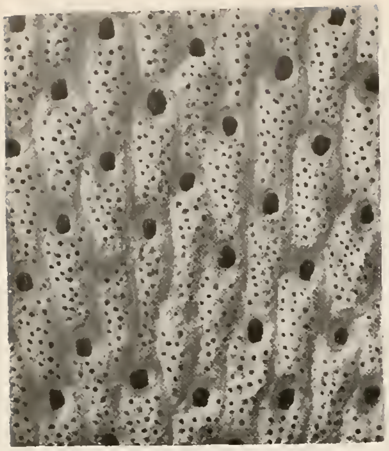
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.



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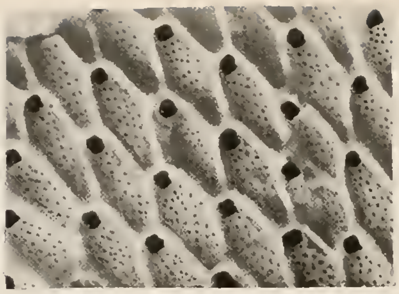

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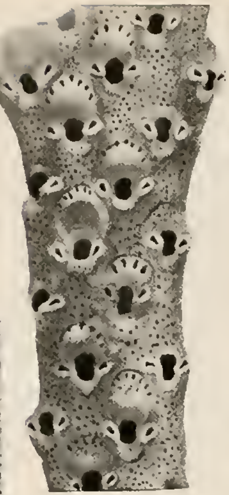

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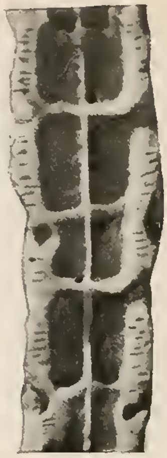

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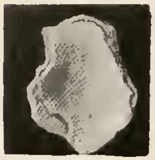

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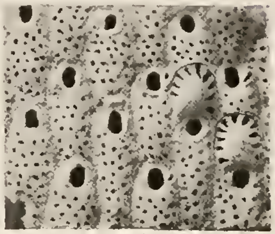

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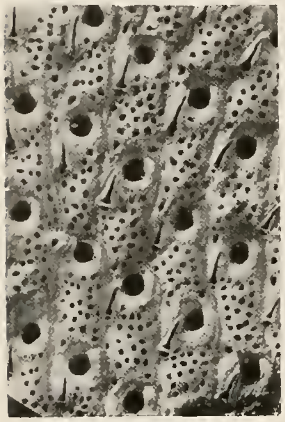

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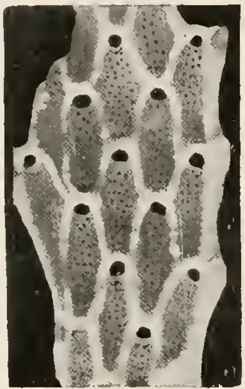

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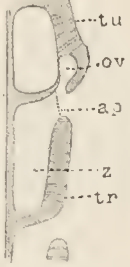

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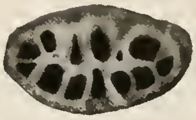

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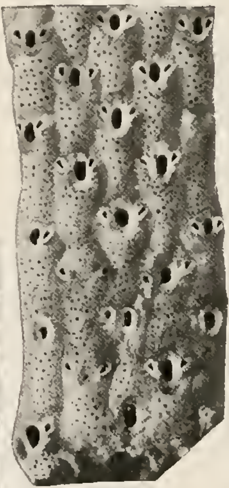

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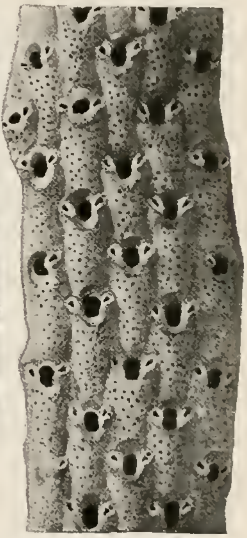

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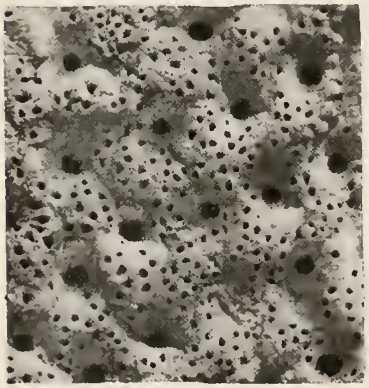

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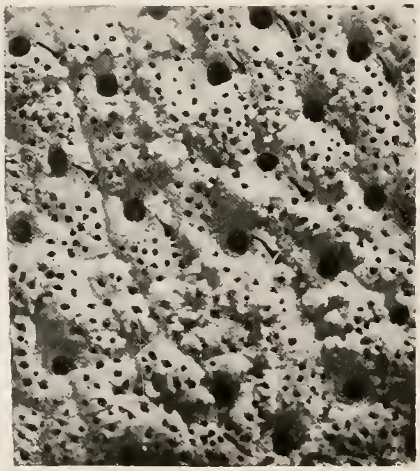

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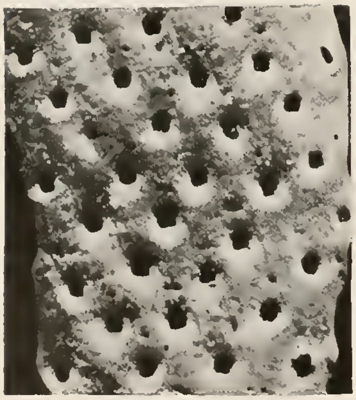

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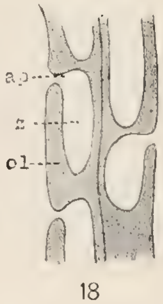

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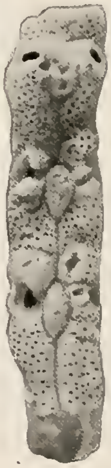

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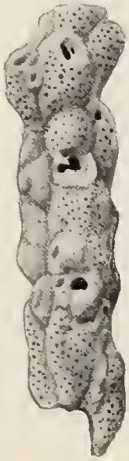

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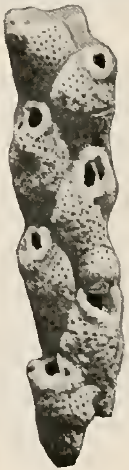

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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 52.

FIGS. 1–4. *Hippodiplosia petiolus* Lonsdale, 1845 (p. 395).

1. Portion of the large bilamellar zoarium, natural size.
2. Surface of the same specimen, × 20. The shape of the apertura, the tremocystal frontal and the absence of avicularia are to be noted.
3. Interior of the zooecia, × 20. The frontal is a tremocyst placed upon a very thin olocyst.
4. An example, ×20, preserving several ovicelled zooecia. A few avicularia are also present.

Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 64094, U.S.N.M.

FIGS. 5–12. *Hippodiplosia vespertilio*, new species (p. 394).

5. Four examples of the narrow bifoliate fronds, natural size.
6. An example, × 20, exhibiting ovicelled zooecia. The ovicell is surrounded by areolae.
7. Longitudinal section, × 20. The tubules of the tremocyst and the large distal septula are visible.
8. Transverse section of zoarium, × 20.
9. View of the interior, × 20. The tubules of the tremocyst are visible through the olocyst.
10. Schematic longitudinal section through an ovicell, × 20.
    ap, aperture; *ov*, ovicell; *tr*, tremocyst; *tu*, tubules; *z*, zooecium.
11. Lower part of a zoarium, × 20, with some closed zooecia.
12. The upper portion of the same specimen, × 20, showing the normal development of zooecia.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64095, U.S.N.M.

FIGS. 13–16. *Hippodiplosia falcifera*, new species (p. 395).

13. Basal portion of the free bilamellar zoarium, natural size.
14. Surface of the same specimen, × 20, exhibiting the usual aspect of the species.
15. A well-preserved fragment, × 20, in which the falciform avicularia are clearly discernible.
16. Old zooecia, × 20. The outlines are indistinct and the avicularia are immersed.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64096, U. S .N. M.

FIGS. 17, 18. *Houzeauina librata*, new species (p. 423). (See also pl. 55, figs. *1–5*.)

17. Surface of the free, narrow bilamellar zoarium, × 20, exhibiting the smooth frontal and the two areola like pores.
18. Vertical section, × 20, illustrating thickness of the olocyst.
    ap, aperture; *ol*, olocyst; *z*, zooecium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64097, U.S.N.M.

FIGS. 19–21. *Hippozeugosella distorta*, new species (p. 390).

19. Celluliferous side of the free, subcylindrical zoarium, ×20. The peristome with peristomial avicularium, the convex, porous frontal and an ovicelled zooecium are to be noted.
20. Frontal side of the same specimen, × 20.
21. One of the two lateral sides of the same, × 20, showing three zooeciules.

Middle Jacksonian: Eighteen miles west of Wrightsville, Georgia.
Cat. No. 64098, U.S.N.M.

PLATE 53.

FIGS. 1–6. *Hippozeugosella teges* Canu and Bassler, 1917 (p. 399).
1. Dorsal side of the free, erect, unilamellar zoarium, × 20.
2, 3. Celluliferous side of two normal fragments, × 20.
4. A specimen, × 20, exhibiting formation of a new branch.
5. A triserial branch, × 20.
6. Dorsal side of a triserial fragment, × 20.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 62591, U.S.N.M.

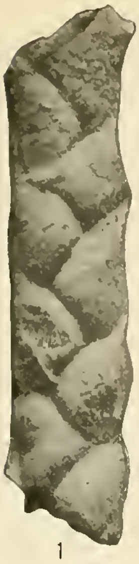
FIGS. 7, 8. *Hippozeugosella sexordinata*, new species (p. 402).
7. The free cylindrical zoarium, × 20.
8. Fragment of a more foliaceous zoarium, × 20.
Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64099, U.S.N.M.

FIGS. 9–11. *Hippozeugosella marginata*, new species (p. 401).
9. The free bilamellar zoarium, × 20, with the zooecia separated by a salient thread.
10. Another specimen, × 20, with the first zooecium of a new branch.
11. View, × 20, showing the two lamellae separated by zooeciules.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64100, U.S.N.M.

FIGS. 12–20. *Hippozeugosella inflata*, new species (p. 401).
12. The free bilamellar zoarium, × 20, formed of young zooecia. These have a small distal tongue.
13. Another small fragment, × 20.
14. Zoarium, × 20, with very convex zooecia, illustrating the most frequent aspect of the species.
15. Fragment, × 20, bearing a branch.
16. Wide zooecia, × 20, enlarged by calcification.
Middle Jacksonian: One-half mile southeast of Georgia Kaolin Company's Mine, Twiggs County, Georgia.
Cat. No. 64101, U.S.N.M.
17, 19 Lateral face, × 20, with zooeciules intercalated between the two lamellae.
18. Lateral view, × 20. The two lamellae are not separated by zooeciules.
20. Base of a branch, × 20, view from below. The section of three primary zooecia is visible.
Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64102, U.S.N.M.

FIGS. 21–25. *Hippozeugosella arcuata*, new species (p. 400).
21. Lateral view of the free bilamellar zoarium, × 20, exhibiting the zooecia and the small tongue quite clearly.
22. Frontal view of normal zooecia, × 20.
23. Another edge view, × 20
24. Four zooecia, × 20, two of which are ovicelled.
25. A triserial fragment, × 20, arising from a single zooecium.
Lower Jacksonian (Moody marl): Jackson, Mississippi.
Cat. No. 64103, U.S.N.M.

FIG. 26. *Romancheina hexagona*, new species (p. 407).
Surface of the incrusting zoarium, × 20, exhibiting normal and ovicelled zooecia.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64104, U.S.N.M.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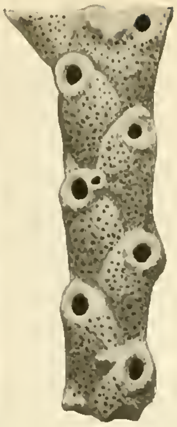
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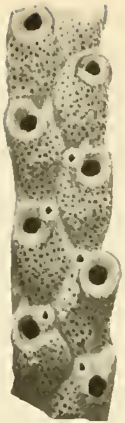
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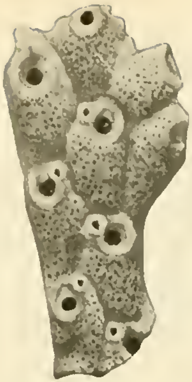
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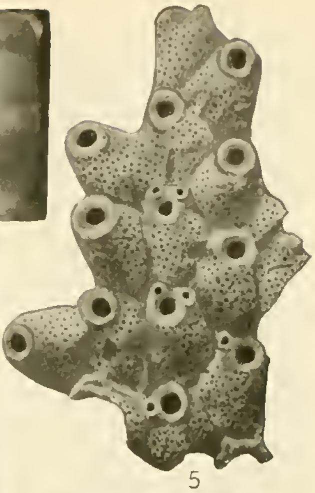
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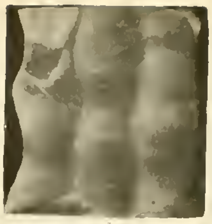
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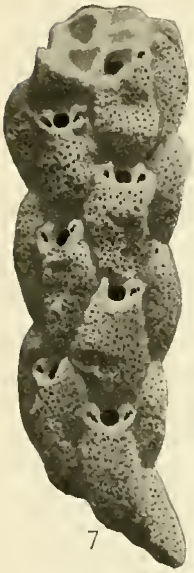
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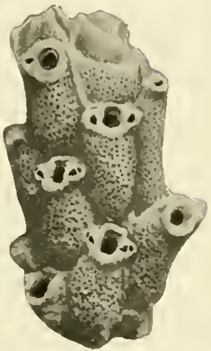
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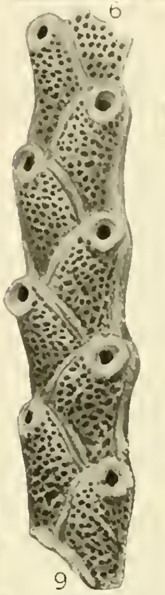
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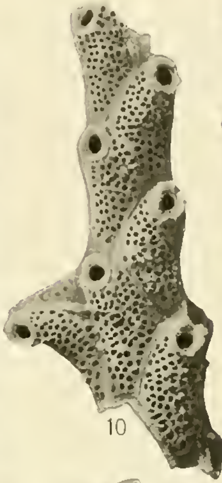
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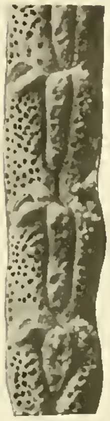
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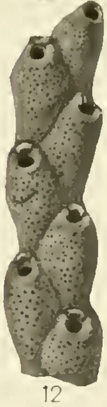
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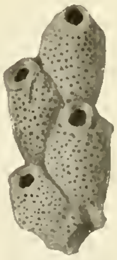
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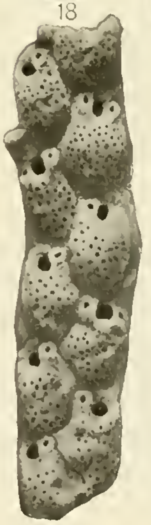
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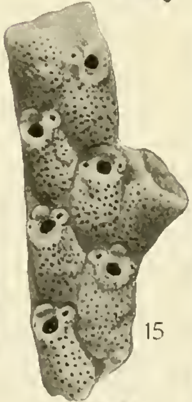
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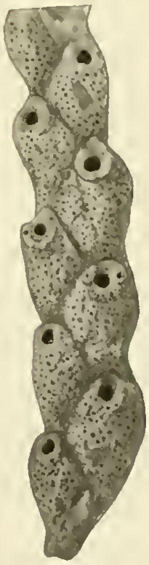
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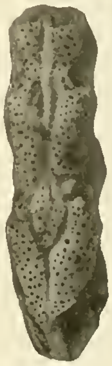
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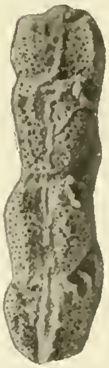
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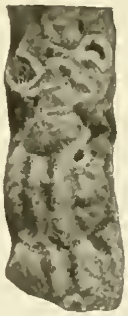
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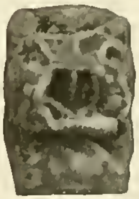
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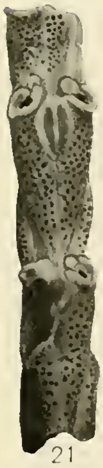
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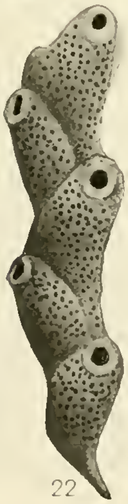
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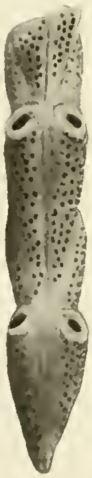
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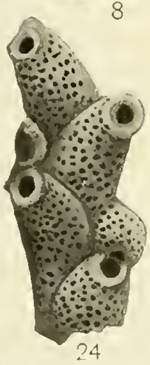
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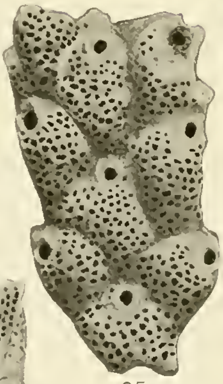
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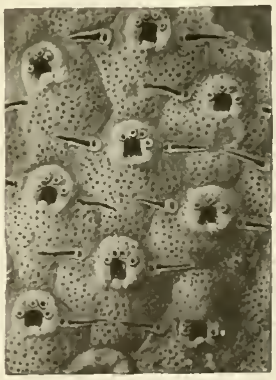
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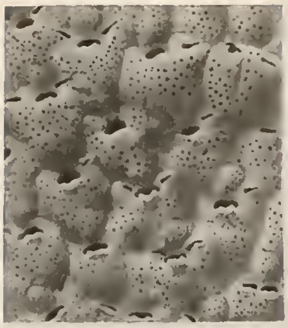
Jacksonian Cheilostomatous Bryozoa.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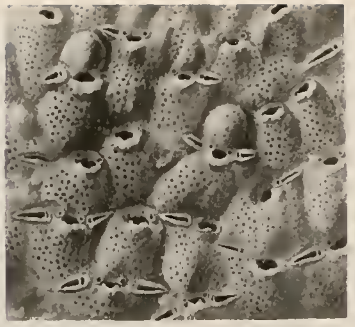
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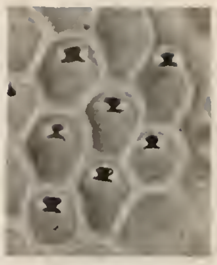
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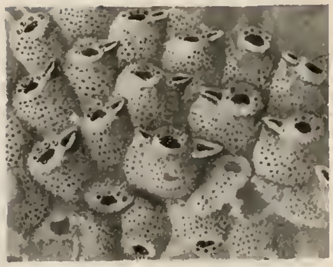
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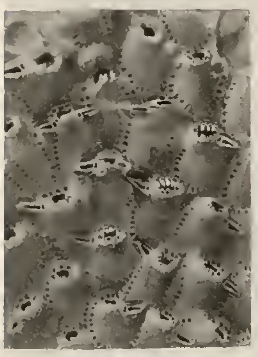
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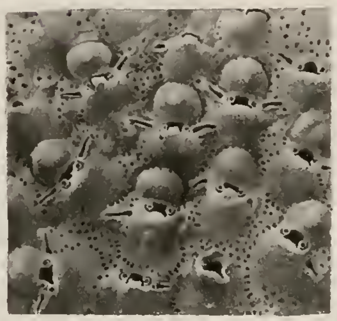
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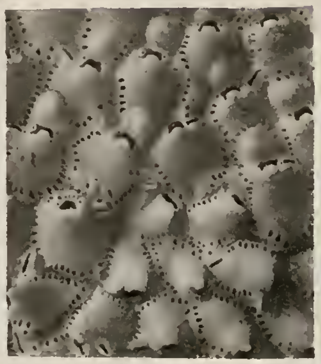
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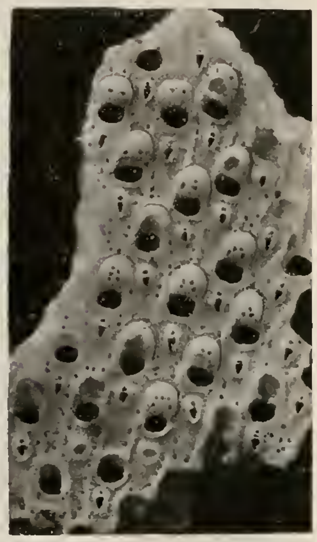
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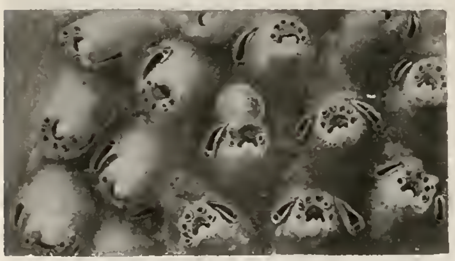
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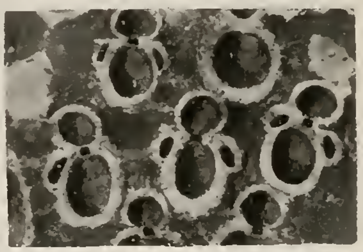
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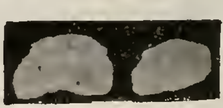
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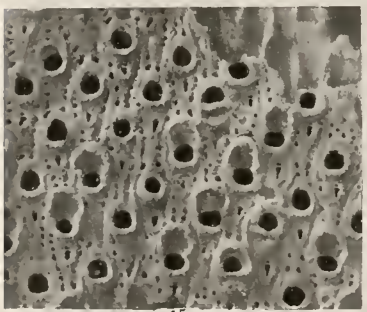
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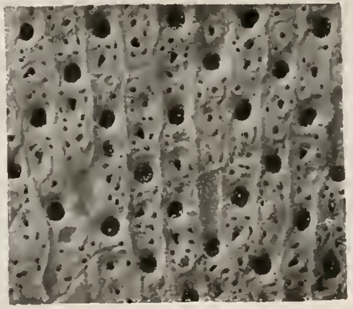
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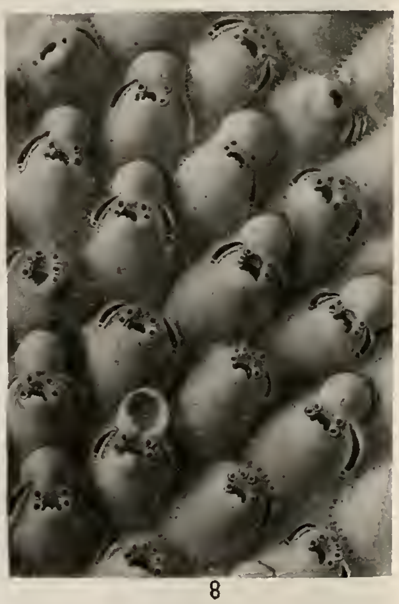
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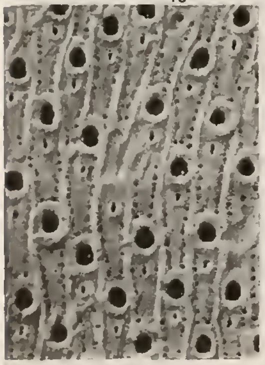
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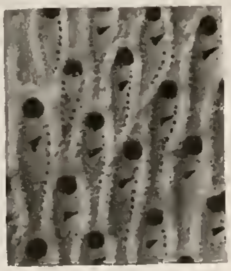
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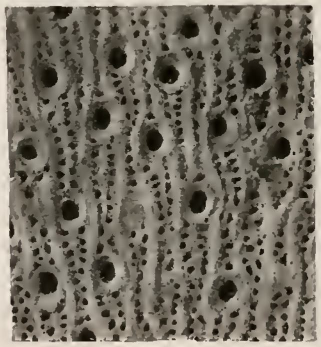
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

Plate 54.

Figs. 1–4. *Romancheina parvipunctata*, new species (p. 408).

1. The incrusting zoarium, × 20, with zooecia having a prominent mucro and irregularly developed avicularia.
2. Another zoarium, × 20, with well developed ovicelled zooecia. Two spines to a zooecium is the rule on this specimen.
3. View of the interior, × 20. Two large condyles border the aperture laterally.

   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

   Cat. No. 64105, U.S.N.M.
4. Portion of a zoarium, × 20, showing the ancestrula and surrounding zooecia, which have in this case four spines.

   Middle Jacksonian: Near Lenuds Ferry, South Carolina.

   Cat. No. 64106, U.S.N.M.

Figs. 5–7. *Peristomella laticella*, new species (p. 413).

5. Ordinary zooecia of the incrusting zoarium, × 20.
6. Ovicelled zooecia, × 20. The areolae and the pleurocyst are well developed.
7. Ancestrula and surrounding zooecia, × 20. The ancestrula is the small zooecium near the center of the figure.

   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

   Cat. No. 64107, U.S.N.M.

Figs. 8–10. *Peristomella falcifera*, new species (p. 415).

8. A well preserved zoarium of this incrusting species, × 20, with both ordinary and ovicelled zooecia. The long falciform avicularium is quite evident, but the areolae are scarcely visible.
9. Ordinary zooecia (one ovicelled), × 20, illustrating the bifid mucro, the locella and the deeply buried apertura.
10. Interior of ovicelled zooecia, × 20. The locella appears as a slit between the ovicell and the zooecium. The lateral openings are the falciform avicularia.

    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

    Cat. No. 64108, U.S.N.M.

Fig. 11. *Houzeauina callosa*, new species (p. 423).

The bilamellar type-specimen, × 20. The perforated frontal callosity of the ovicell is characteristic.

Middle Jacksonian: 18 miles west of Wrightsville, Johnson County, Georgia.

Cat. No. 64109, U.S.N.M.

Figs. 12–17. *Houzeauina ornata*, new species (p. 422).

12. Two fragments of the bilamellar zoarium, natural size.
13. Ordinary zooecia, × 20, with large areolae and no avicularia.
14. Ordinary zooecia, × 20, with small areolae and avicularia.
15. Zooecia with ovicells (broken), × 20.
16. A zoarium, × 20, with the pleurocyst well developed.

    Middle Jacksonian: Baldock, Barnwell County, South Carolina.

    Cat. No. 64110, U.S.N.M.
17. Interior of zooecia, × 20, showing the thick olocyst with small lateral areolae and the triangular cavity of the avicularium arising from a lateral areola.

    Middle Jacksonian: Rich Hill, Crawford County, Georgia.

    Cat. No. 64111, U.S.N.M.

PLATE 55.

FIGS. 1–5. *Houzeauina librata*, new species (p. 423). (See also plate 52, figs. 17. 18.)
1. Fragment of the bilamellar zoarium, natural size.
2. Surface of a zoarium, × 20, with the median avicularium developed and the areolae widely spaced.
3. Another zoarium, × 20, exhibiting two monstrous zooecia.
4. An example, × 20, with the two lower areolae much developed and as usual in such cases, the avicularia wanting.
5. Interior of zooecia, × 20, with the triangular avicularium visible.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64097, U.S.N.M.

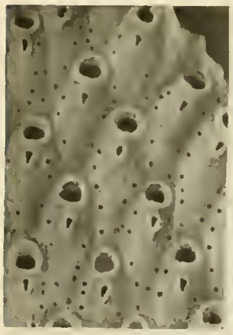
FIG. 6. *Cyclicopora laticella*, new species (p. 427).
The incrusting type-specimen, × 20. The zooecia are wide and the frontal is adorned with large tremopores.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64112, U.S.N.M.

FIG. 7. *Cyclicopora fissurata*, new species (p. 425).
Surface of the unilamellar zoarium, × 20, showing the elongated zooecia with large tremopores and elongated thin avicularia.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64113, U.S.N.M.

FIGS. 8–11. *Metradolium labratulum*, new species (p. 441).
8. Two examples of the narrow bilamellar zoarium, natural size.
9. Zooecia, × 20, with the enormous mucro bearing at its base a spiramen. Several zooecia have an avicularium and then the spiramen is replaced by a rimule.
10. Another zoarium, × 20, having some zooecia with lateral rimule and avicularium and others with spiramen.
Middle Jacksonian: One-half mile southeast of Georgia Kaolin Company's mine, Twiggs County, Georgia.
Cat. No. 64114, U.S.N.M.
11. A fragment, × 20, in which most of the zooecia have the spiramen placed below a large lamellate mucro.
Middle Jacksonian: Eighteen miles west of Wrightsville, Georgia.
Cat. No. 64115, U.S.N.M.

FIGS. 12–14. *Metradolium grande*, new species (p. 445).
12. The narrow, bilamellar zoarium, natural size.
13. Zooecia with the avicularia exterior, × 20. The rimule-spiramen is well formed.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64116, U.S.N.M.
14. An old zoarium, × 20, in which the avicularium is within the peristomie. The rimule spiramen is deep and irregular.
Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 64117, U.S.N.M.

FIGS. 15–20. *Metradolium parvirimulatum*, new species (p. 443).
15. Three fragments, natural size.
16. An example, × 20, with zooecia having a very small rimule spiramen and normal avicularium.
17. Another specimen, × 20, exhibiting mainly zooecia with spiramen only. A few of the zooecia have a small avicularium.
18. Zooecia with spiramen and no avicularia, × 20, illustrating their arrangement in groups.
19. A zoarium, × 20, in which the principal avicularium is very large.
20. A specimen, × 6, having ordinary zooecia with rimule spiramen at the base and zooecia with spiramen in the upper part.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64118, U.S.N.M.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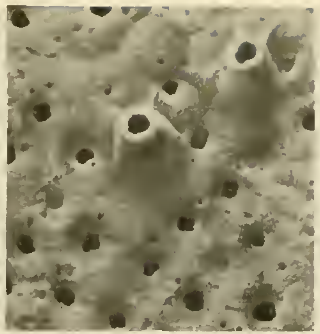
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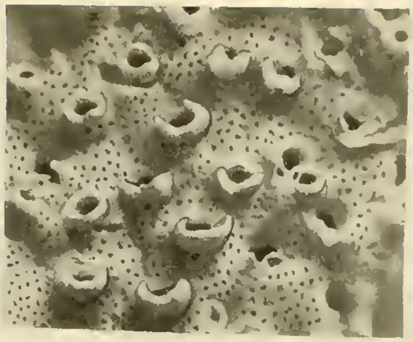
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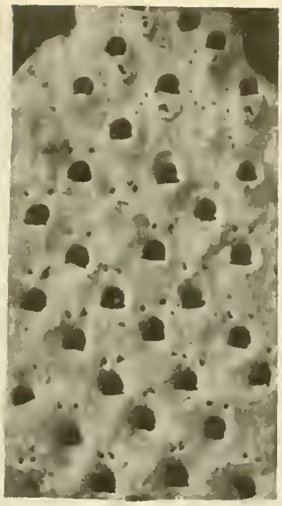
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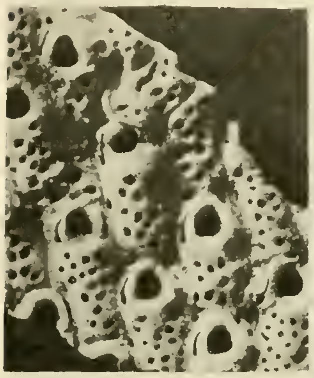
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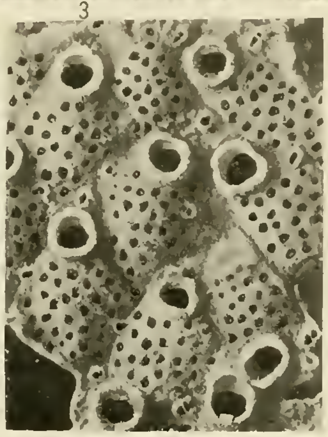
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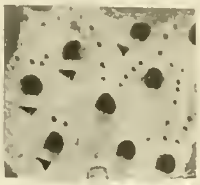
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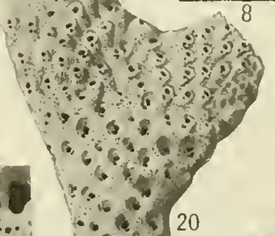
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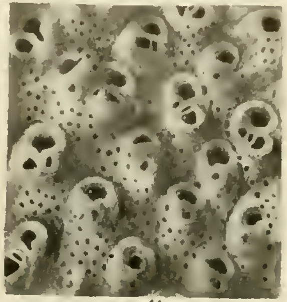
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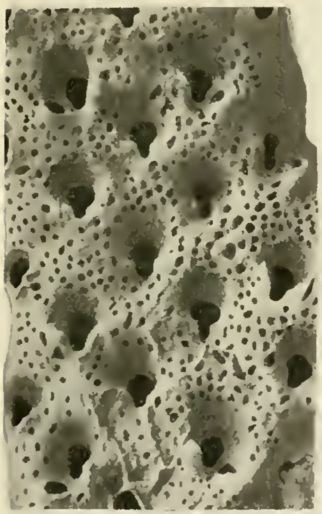
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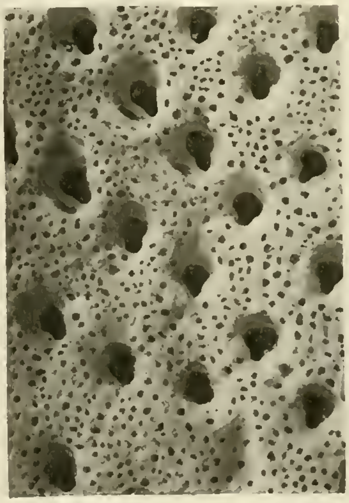
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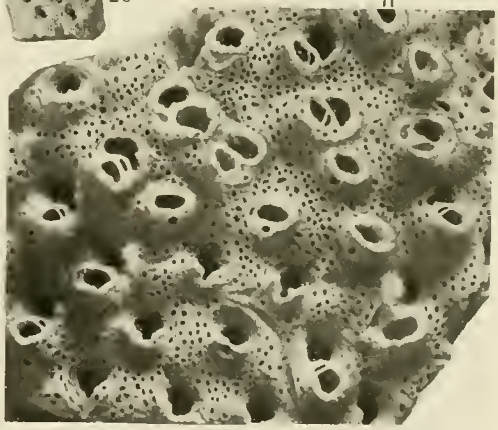
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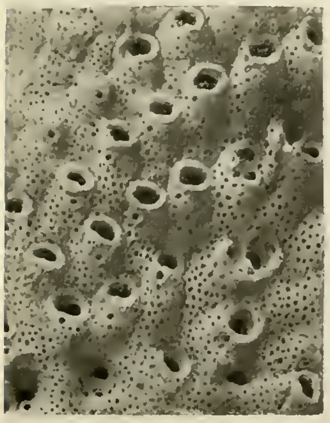
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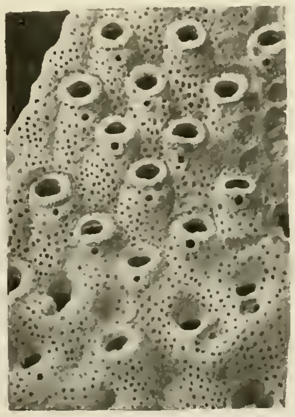
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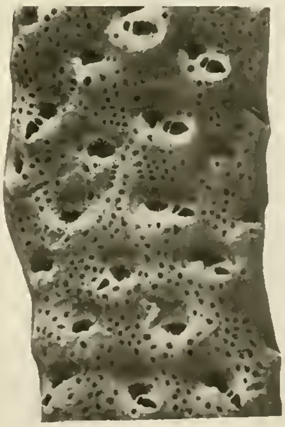
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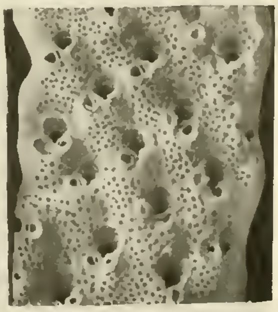
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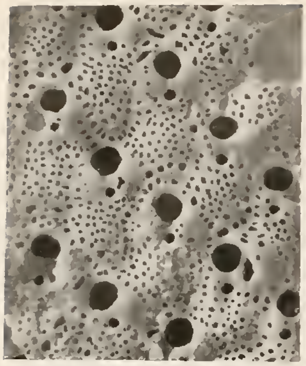
Jacksonian Cheilostomatous Bryozoa.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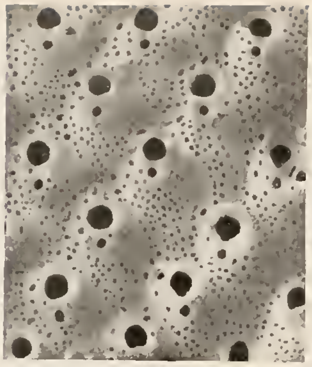
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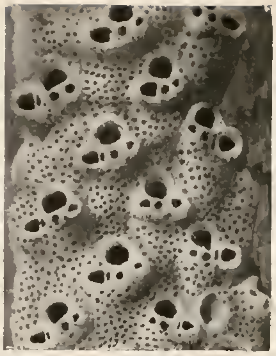
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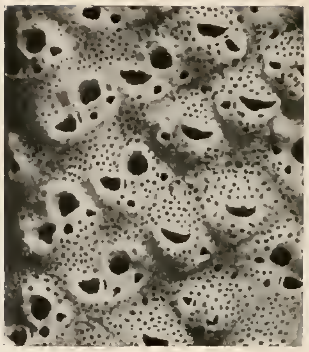
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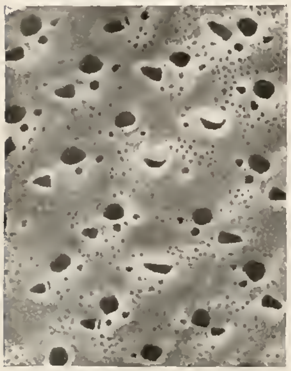
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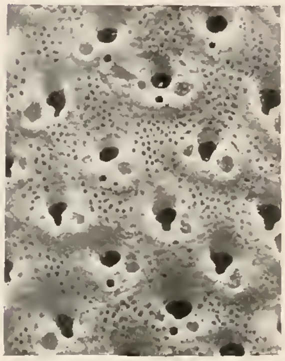
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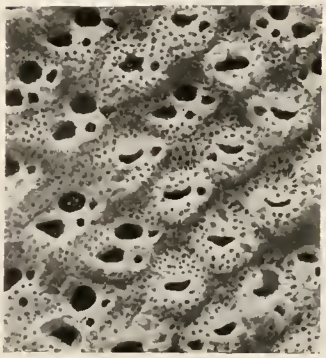
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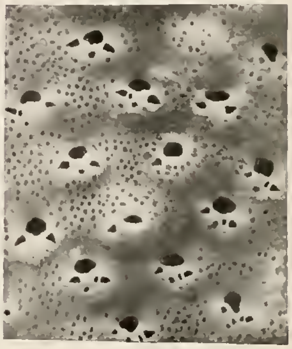
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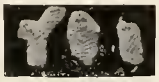
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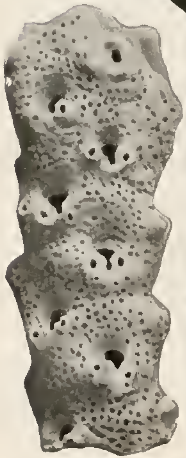
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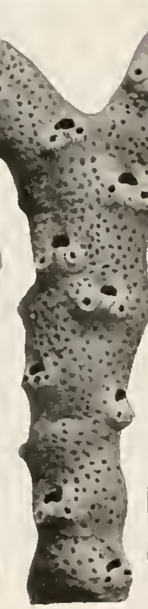
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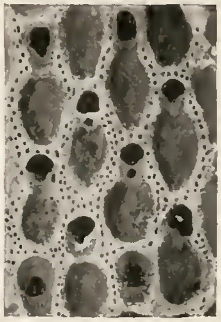
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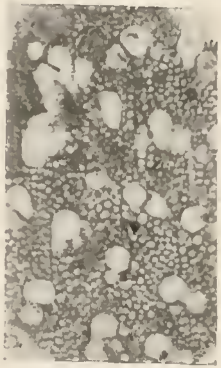
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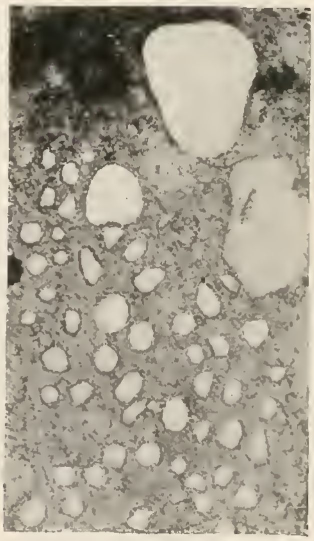
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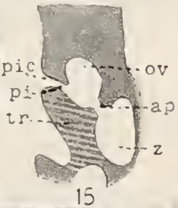
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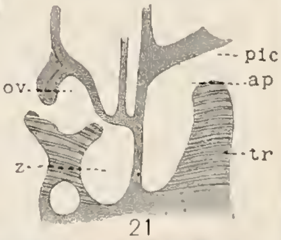
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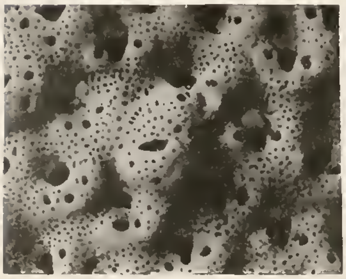
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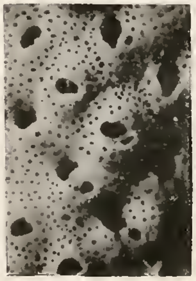
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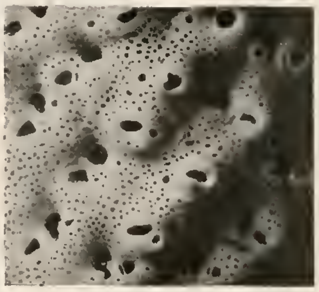
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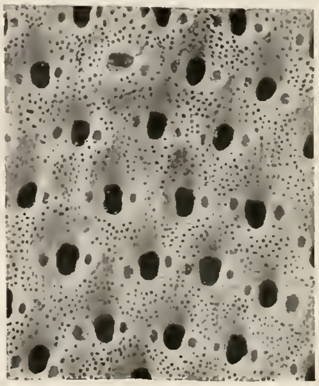
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

Plate 56.

Figs. 1–15. *Metradolium dissimile* Canu and Bassler, 1917 (p. 442).

1. The free, narrow bilamellar zoarium, natural size.

2, 3. Two views of normal zooecia, × 20, with a large spiramen and with the oral avicularia either absent or much reduced.

4. Normal zooecia, × 20, with the spiramen and the two dissimilar avicularia, large and small, well developed.

5, 6. Normal and ovicelled zooecia, × 20. The latter have a lunate opening and are without a spiramen.

7. Zooecia, × 20, showing that the spiramen is often replaced by a rimule spiramen.

8. A group of ovicelled zooecia with adjacent normal zooecia, × 20. The frontal of both kinds of zooecia is a tremocyst.

9. Another aspect of the species, × 20, in which the avicularia are symmetrical and tubular.

10, 11. Young zoaria, × 20. The avicularia are symmetrical and tubular and the micrometric dimensions are smaller.

12. Interior of zooecia, × 20. Two zooecia have the round spiramen while the rest have a rimule spiramen. Several ovicelled zooecia, with the aperture in the middle, may be noted.

13, 14. Tangential thin section, × 25 and × 100, passing through the tremocyst.

15. Schematic vertical section, × 20, cutting an ovicelled zooecium.

ap, apertura; *ov*, ovicell; *pi*, peristomie; *pic*, peristomice; *tr*, tremocyst; *z*, zooecium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 62596, U.S.N.M.

Figs. 16–21. *Metradolium conveniens*, new species (p. 445).

16. Four examples of the bilamellar zoarium, natural size.

17. Ordinary zooecia, × 20, with rimule spiramen. One large ovicelled zooecium is developed.

18. An example, × 20, showing ovicelled and ordinary zoaria.

19. Ovicelled and ordinary zooecia, × 20. Some of the latter have only one large oral avicularium with pivot.

20. Surface of zoarium, × 20, with ordinary zooecia having symmetrical avicularia and no rimule spiramen. One ovicelled zooecium is present.

21. Longitudinal section through a zoarium, × 20, cutting both an ovicelled and an ordinary zooecium.

ap, apertura; *ov*, ovicell; *pic*, peristome; *tr*, tremocyst; *z*, zooecium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64119, U.S.N.M.

PLATE 57.

FIGS. 1–3. *Metradolium transversum*, new species (p. 444).

1. The free bilamellar zoarium, natural size.
2. Surface of the same specimen, × 20. Some of the zooecia have oral avicularia.
3. Another zoarium, × 20, showing some zooecia with lateral rimule and others with a convexity on the proximal border, which increases the transverse aspect of the peristomice.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64120, U.S.N.M.

FIGS. 4–10. *Metradolium obliquum*, new species (p. 446).

4. Fragment of the bilamellar zoarium, natural size.
5. Half of a branch, × 20. The obliquely directed rimule spiramen and the oral avicularia are quite visible. One ovicelled zooecium is shown near the top.
6. A branch, × 20, with three ovicelled zooecia in the center. The rimule spiramen on the ordinary zooecia is well developed.
7. Interior of zooecia, × 20, showing the proximal spine of the apertura. The large transverse opening is that of an ovicelled zooecium.
8. Tangential thin section through the tremocyst, × 20.
9. A single zooecium of the same, × 100. In the middle of the figure a portion of the olocyst is visible.
10. Longitudinal section through a zoarium, × 20, including both an ovicelled and an ordinary zooecium.

ap, apertura; *ol*, olocyst; *ov*, ovicell; *s*, septula; *tr*, tremocyst; *tu*, tubules.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64121, U.S.N.M.

FIGS. 11–17. *Ochetosella robusta*, new species (p. 453).

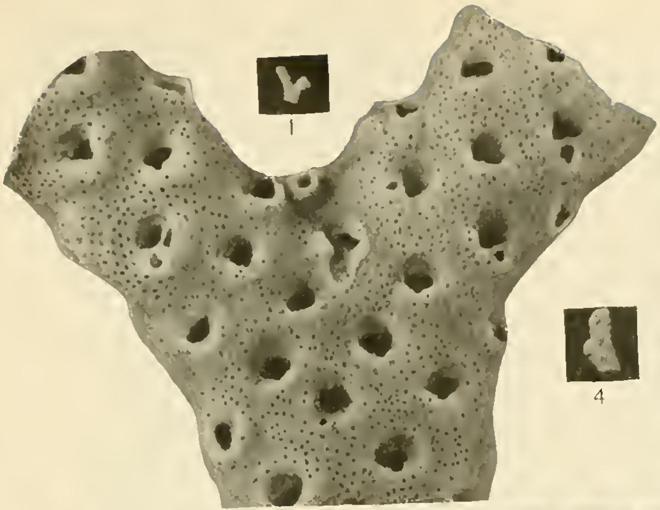
11. A group of the free, cylindrical zoaria, natural size.

12, 13. Two branching fragments, × 6. The first specimen shows an inversion of zooecia.

14. A branched fragment, × 20.
15. An example, × 20, showing the simple, round, oral avicularium.

16, 17. Two specimens, × 20, illustrating variations in the species.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64122, U.S.N.M.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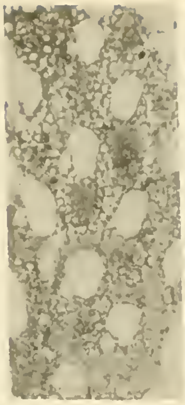
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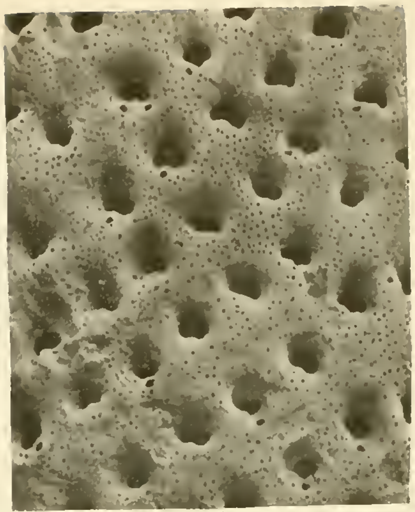
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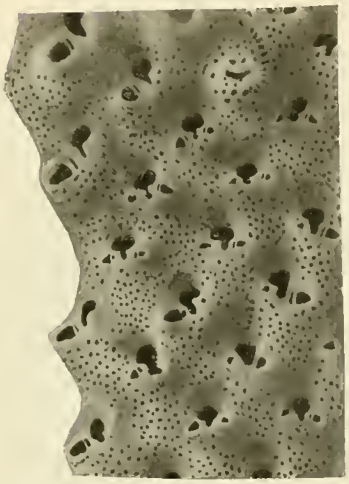
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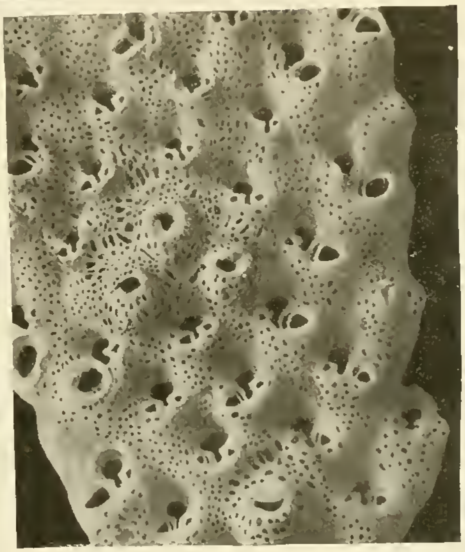
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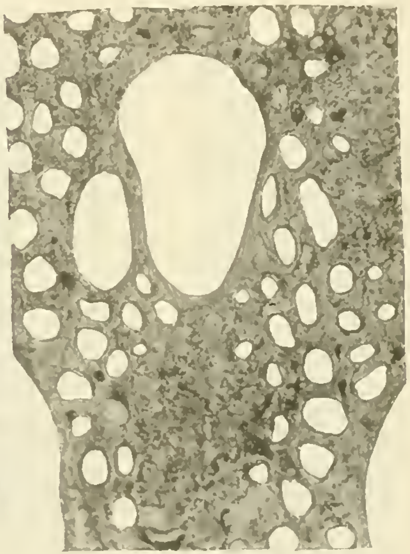
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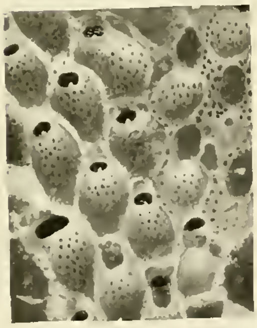
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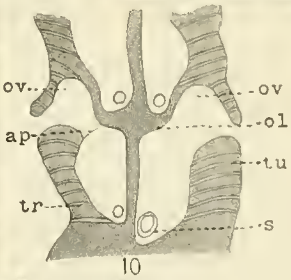
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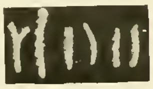
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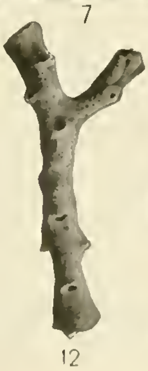
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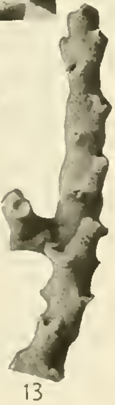
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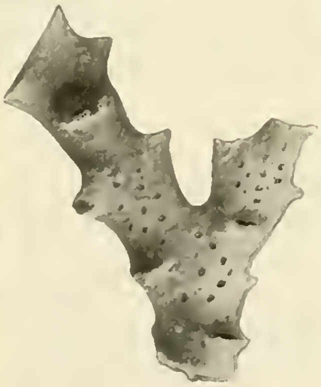
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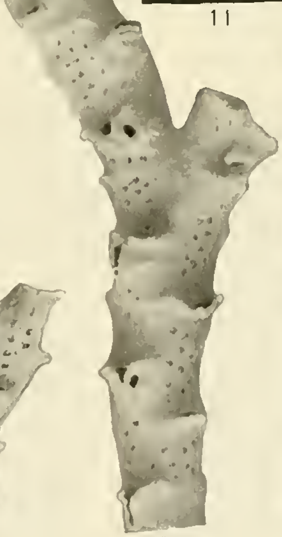
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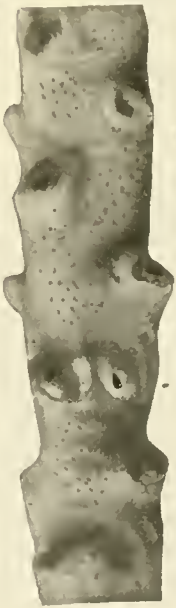
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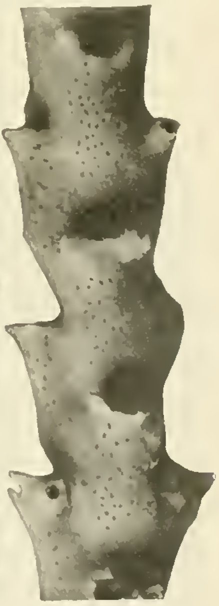
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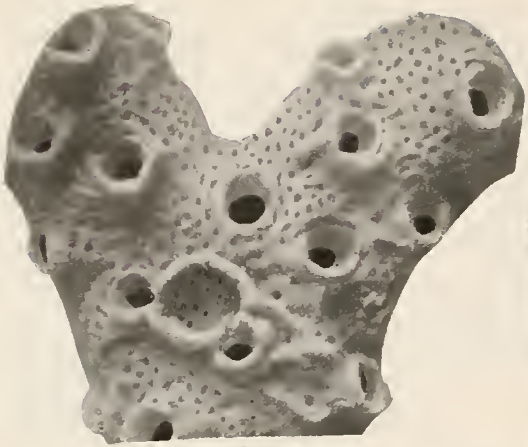
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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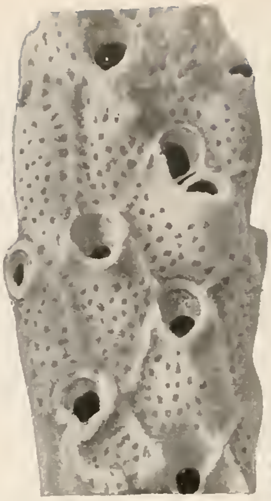
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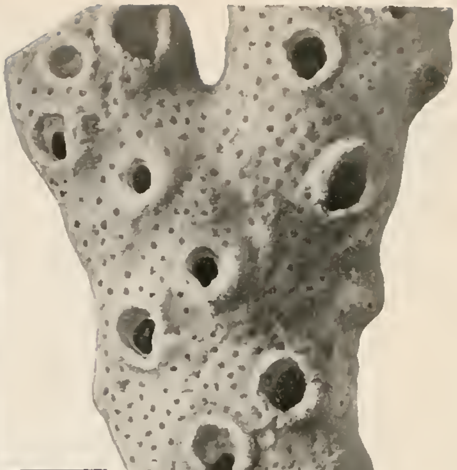
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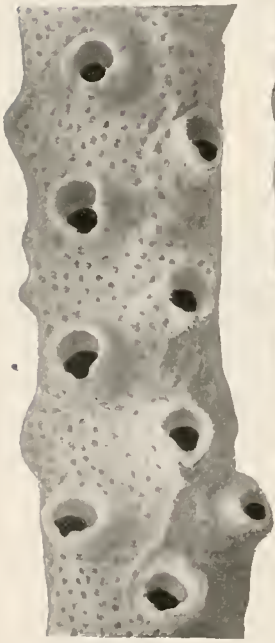
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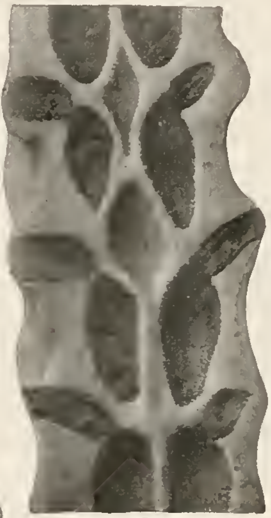
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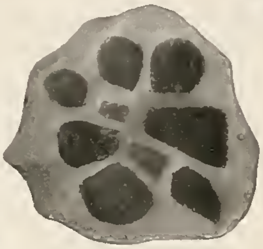
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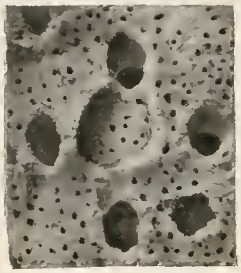
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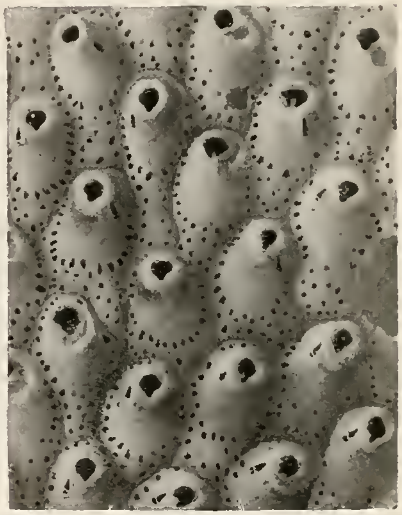
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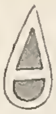
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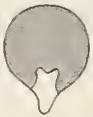
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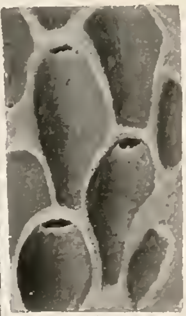
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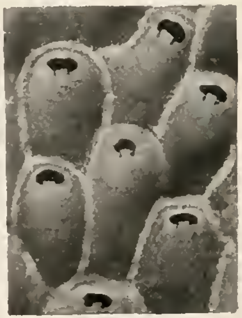
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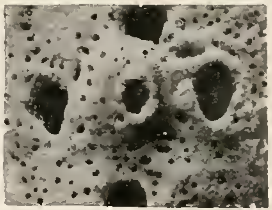
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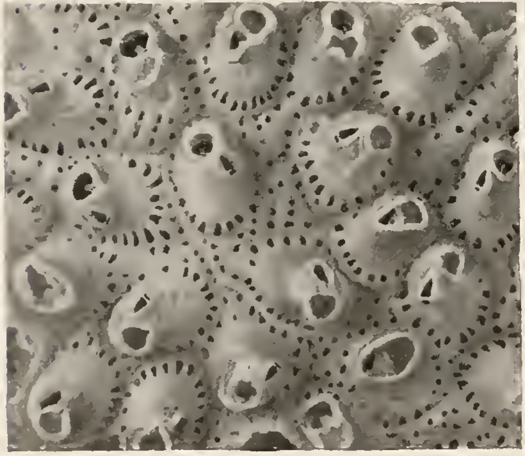
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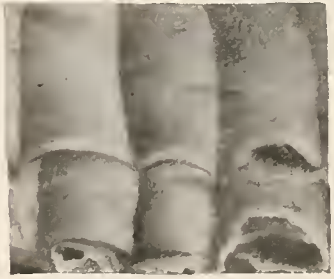
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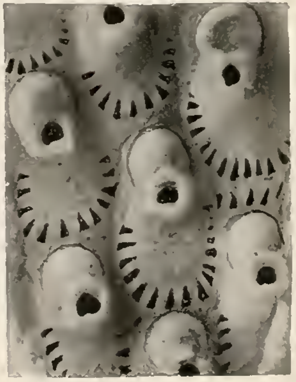
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 58.

FIGS. 1–10. *Metrocrypta bucculenta* Canu and Bassler, 1917 (p. 451).

1. Three specimens of the free cylindrical zoarium, natural size.
2. A branched zoarium, × 20, showing the apertura at the base of a deep peristomie. A broken interzooecial swelling is present.
3. Zooecia, × 20, separated by a salient ridge. One oral avicularium is developed.
4. An old zoarium, × 20, with zooecia having thickened peristomes.
5. A fragment, × 20, in which the rimule spiramen is well shown.
6. Longitudinal section, × 20, exhibiting the wide peristomie and the thick frontal walls.
7. Transverse section, × 20, illustrating thickness of frontal walls.
8. Portion of a surface × 20, with the ovicell-like swelling (broken).
9. A surface, × 20, with the ovicell-like protuberance intact.
10. Interior of zooecia, × 20. The apertura is almost invisible. The internal zooecial walls are very thin.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62598, U.S.N.M.

FIGS. 11–17. *Smittina collum*, new species (p. 457).

11. Surface of the multilamellar zoarium, × 20. Here the areolae are small and arranged in several rows. The lyrula is visible in some zooecia. The peristome forms a decided collar around the opening.
12. Another zoarium, × 20. The areolae are large and are often separated by costules. The avicularium is triangular and placed laterally.
13. Sketch of the avicularium.
14. Apertura with lyrula.
15. Interior of zooecia, × 20, showing the smooth olocyst and the lyrula.
16. Ovicelled zooecia, × 20.
17. Basal side of a free fragment growing upon an alga, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64123, U.S.N.M.

PLATE 59.

FIGS. 1–6. *Smittina grandifossa*, new species (p. 460).

1. Surface of the plurilamellar incrusting zoarium, × 20. The thread separating the zooecia is scarcely visible. Avicularia are absent.
2. Irregularly arranged zooecia, × 20. The lyrula is visible in some of them.
3. Ovicelled zooecia, × 20. The areolae are in double or triple rows in the lower part of the zooecia.
4. Ordinary zooecia, × 20, in which the separating thread is quite thick.
5. Sketch of the apertura and the lyrula.
6. Interior of zooecia, × 20, showing lyrula.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64124, U.S.N.M.

FIGS. 7–10. *Smittina labiatula*, new species (p. 460).

7. The free, cylindrical zoarium, × 20. The areolae are small.
8. A normal zoarium, × 20, exhibiting the characteristic salient lips of the peristomice.
9. Basal portion of a zoarium, × 20, showing large areolae.
10. Vertical section, × 20, through an ovicelled zooecium.

ap, apertura; *av*, avicularian armature; *ov*, ovicell; *pic*, peristomice; *z*, zooecium.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64125, U.S.N.M.

FIG. 11. *Smittina coronata*, new species (p. 461).

The unilamellar zoarium, × 20. The ovicells have a porous area surrounded by a collar. The pleurocyst is granulated.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64126, U.S.N.M.

FIGS. 12–14. *Smittina strombecki* Reuss, 1866 (p. 463).

12. The incrusting zoarium, × 20, showing ovicelled zooecia.
Middle Jacksonian: Eighteen miles west of Wrightsville, Georgia.
Cat. No. 64127, U.S.N.M.
13. Ordinary and ovicelled zooecia, × 20, ornamented by a porous area. The small areolae and median avicularium are visible.
Middle Jacksonian: One-half mile southeast of Georgia Kaolin Co.'s mine, Twiggs County, Georgia.
Cat. No. 64128, U.S.N.M.
14. Ordinary zooecia, × 20, separated by a salient thread.
Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.
Cat. No. 64129, U.S.N.M.

FIGS. 15, 16. *Smittina sordida*, new species (p. 465).

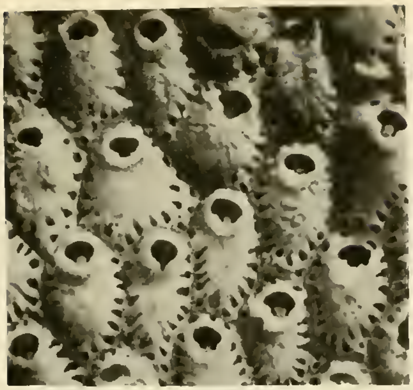
15. The incrusting zoarium, × 20, with both ovicelled and ordinary zooecia. Both the small triangular oral avicularium and the round salient frontal avicularium are developed. The lyrula is visible frequently.
16. Another portion of the same zoarium, × 20.

Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.
Cat. No. 64130, U.S.N.M.

FIGS. 17–19. *Smittina exigua*, new species (p. 463).

17. Surface of the free bilamellar zoarium, × 20. Two closed zooecia are present.
Upper Jacksonian (Ocala limestone): One and one-half miles southeast of Georgia Kaolin Co.'s mine, Twiggs County, Georgia.
Cat. No. 64131, U.S.N.M.
18. Another zoarium with the pleurocyst well developed, × 20. A number of the zooecia are closed.
19. View of the interior, × 20.

Middle Jacksonian: Three and one-half miles west of Grovania, Georgia.
Cat. No. 64132, U.S.N.M.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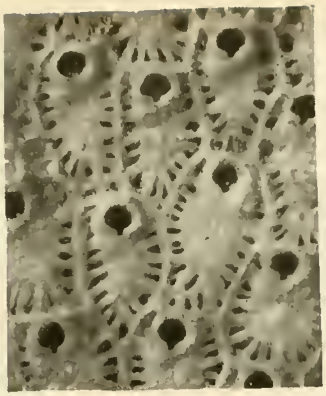
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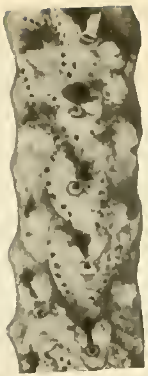
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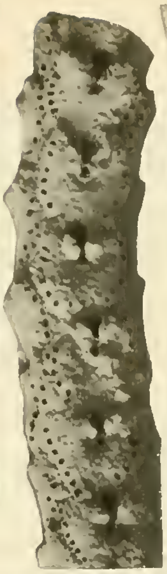
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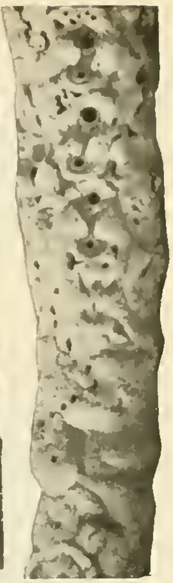
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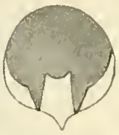
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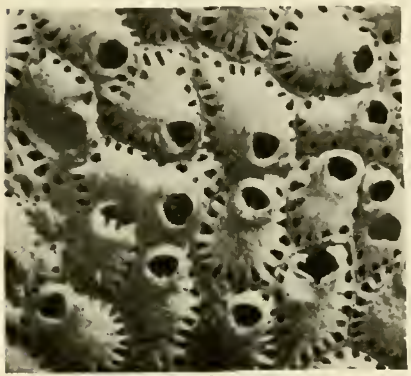
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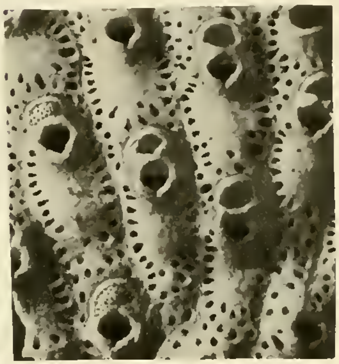
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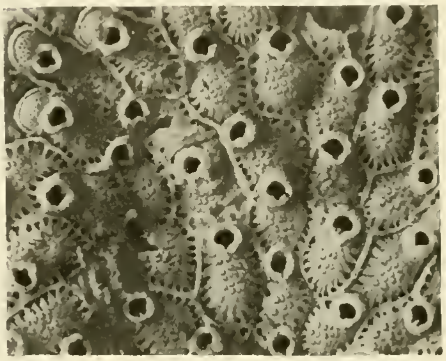
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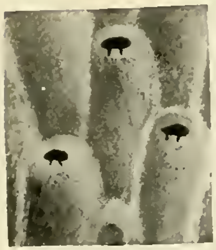
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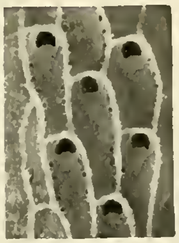
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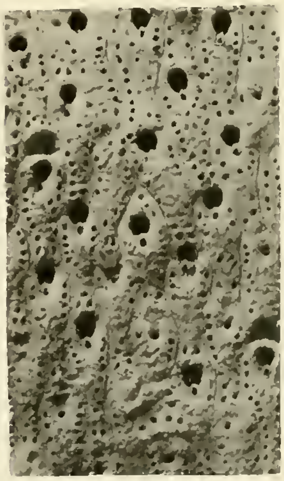
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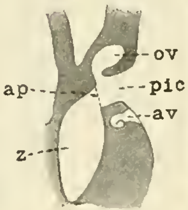

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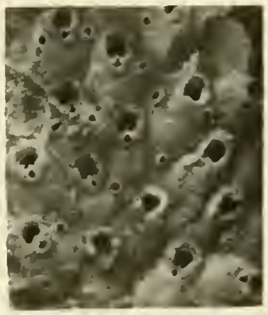
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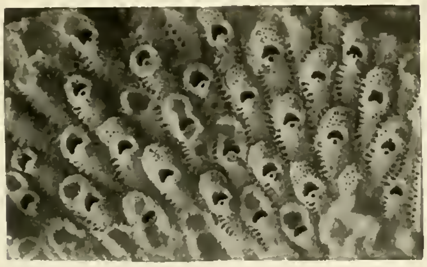
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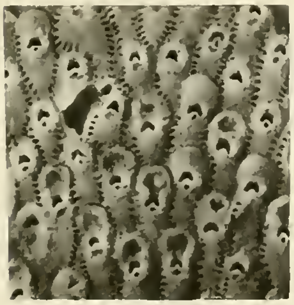
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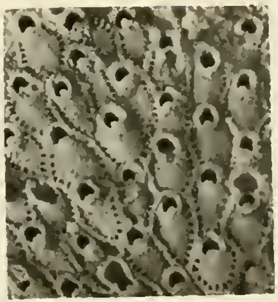
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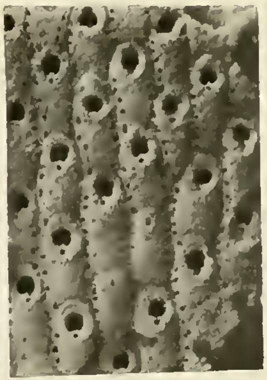
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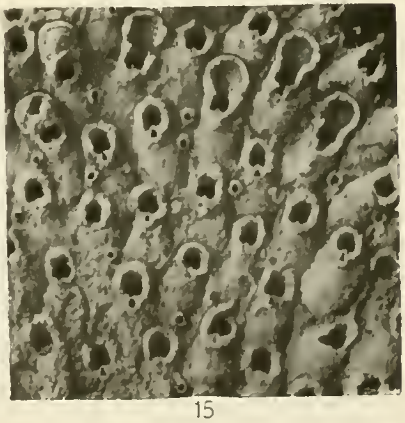
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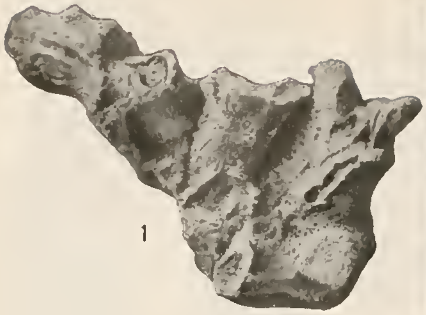
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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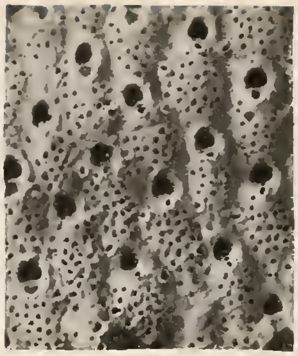
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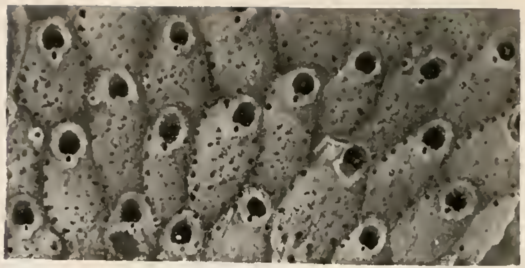
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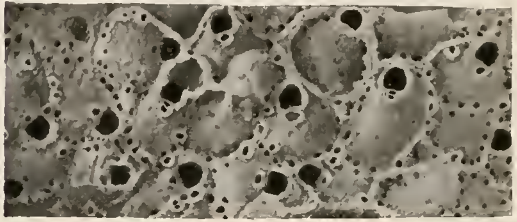
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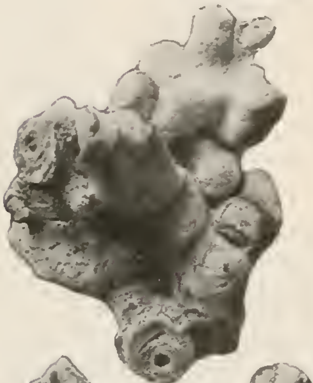
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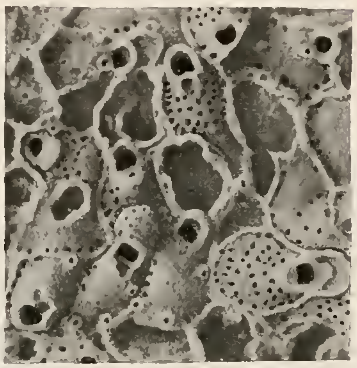
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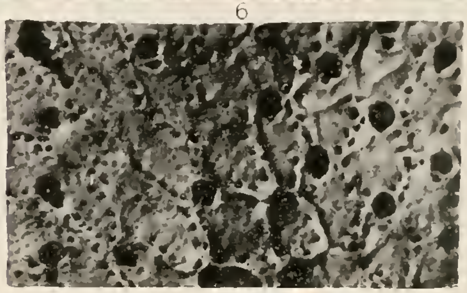
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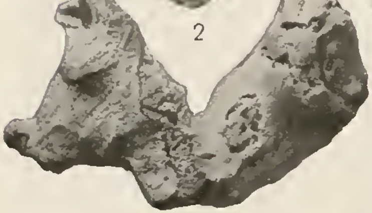
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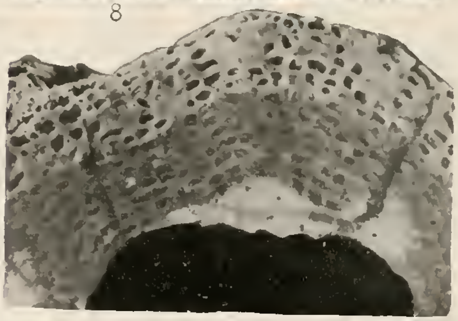
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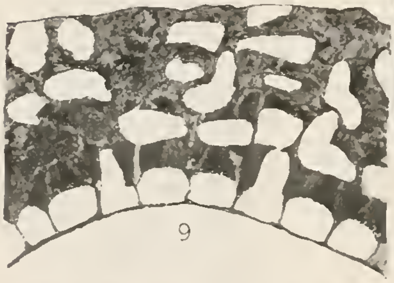
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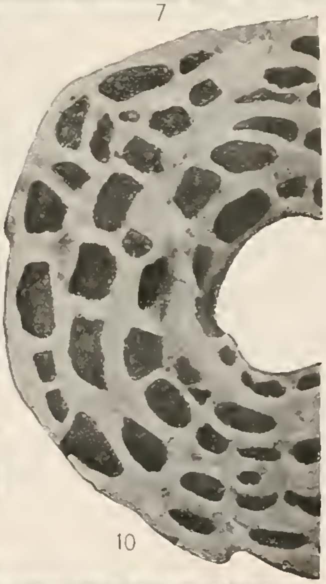
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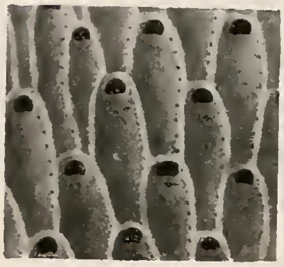
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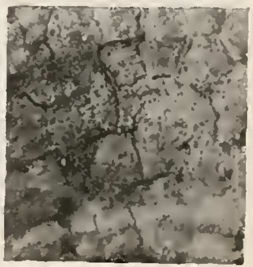
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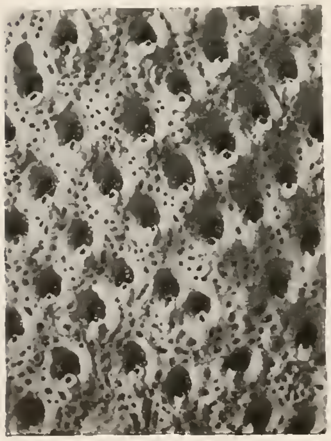
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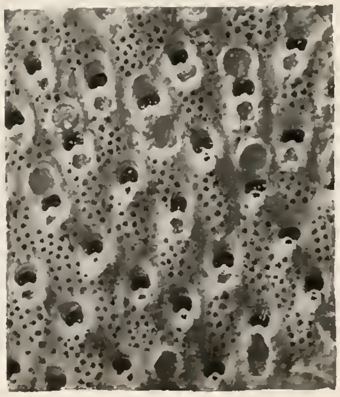
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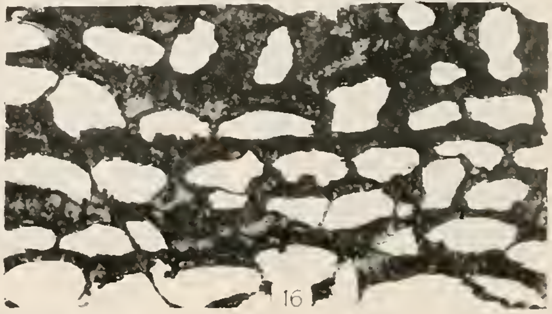
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Jacksonian Cheilostomatous Bryozoa.

PLATE 60.

FIGS. 1–16. *Smittina angulata* Reuss, 1865 (p. 461).

1–3. Three examples of the massive, hollow, irregularly lobed multilamellar zoaria, natural size.

4. Ordinary zooecia, × 20, with median and lateral avicularia, and a strongly developed porous pleurocyst. This is the most frequent aspect of the species.

5. Surface of another zoarium, × 20. The areolae are more visible and the pleurocyst is irregularly developed.

6. Zooecia, × 20, showing the pleurocyst developed above the olocyst, and in a few cases detached from it.

7. Zoarial surface, × 20, with two ovicelled zooecia. Like the zooecial frontal, the ovicell is covered by a porous pleurocyst.

8. More calcified zooecia, × 20, with a separating salient thread. Several closed zooecia are present.

9. Transverse thin section, × 20. The thick zooecial walls are perforated by tubules.

10. Transverse section, × 20, showing thickening of walls.

11. Vertical section, × 6. The dark lamellae are filled with calcite, thus forming a rigid substratum.

12, 13. Strongly calcified zooecia, × 20. The outlines of the zooecia are lost, but the porous pleurocyst is well developed.

14. Interior of zooecia, × 20, showing the smooth olocyst perforated laterally by small pores.

15. Basal aspect of the zooecia, × 20.

16. Vertical thin section, × 20, illustrating the minute structure.

Jacksonian (Zeuglodon zone): Cocoa post office, Choctaw County, Alabama.
Cat. No. 64133, U.S.N.M.

PLATE 61.

FIGS. 1–4. *Smittina orbavicularia*, new species (p. 469).

1. Surface of the unilamellar zoarium, × 20, exhibiting ordinary zooecia with their orbicular avicularia. The pivot of the avicularia is quite visible.
2. View of the interior, × 20, where the lyrula is visible.
3. Ovicelled zooecia, × 20.
4. Another specimen, × 20. A single ovicelled zooecium (broken) is present. The avicularium shows two or more perforations.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64134, U.S.N.M.

FIGS. 5–8. *Smittina puncturata*, new species (p. 464).

5. The incrusting zoarium, × 20, exhibiting the ancestrula and surrounding zooecia.
6. Interior of zooecia, × 20.
7. Large zooecia, × 20, with well preserved median avicularia. The pleurocyst is finely porous.
8. A zoarium, × 6, the original of figure 5.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64135, U.S.N.M.

FIGS. 9–13. *Plagiosmittia regularis* Canu and Bassler, 1917 (p. 472).

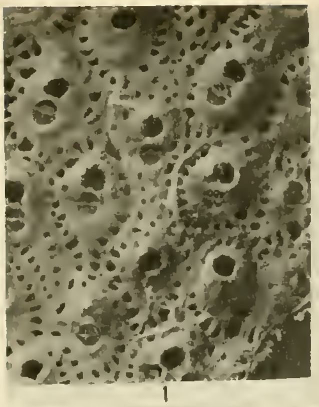
9. Four fragments of the flat bilamellar zoarium, natural size.
10. Ovicelled zooecia × 20.
11. Ordinary zooecia, × 20, separated by a thread. The transverse arrangement of the zooecia, the tremocyst and the lateral position of the avicularium are clearly indicated.
12. Ordinary and ovicelled zooecia, × 20, separated by a furrow and showing a salient peristome and the avicularium quite clearly.
13. Tangential thin section through the frontal, × 20, illustrating structure of the tremocyst.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62600, U.S.N.M.

FIGS. 14–18. *Plagiosmittia porelloides*, new species (p. 472).

14. A nearly complete example of the narrow bilamellar zoarium, natural size (restoration).
15. Surface of a branch, × 20, showing the small micrometric dimensions and the median position of the avicularium.
16. Interior of zooecia, × 20. The ovicell, shape of the apertura, and the avicularium are shown.
17. Ovicelled zooecia, × 20. As in other species of *Plagiosmittia*, the ovicell is formed of a porous area surrounded by a narrow, smooth collar.
18. Tangential thin section, through several zooecia, × 100. The tremocystal nature of the frontal is evident.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64136, U.S.N.M.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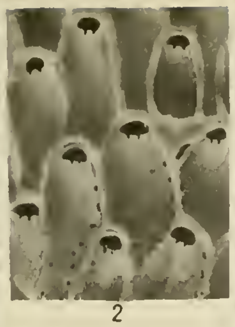
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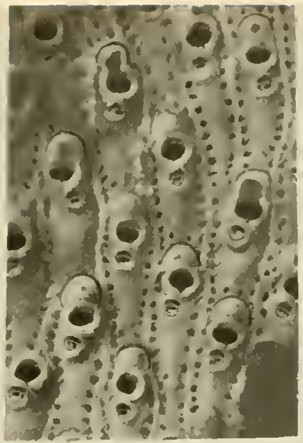
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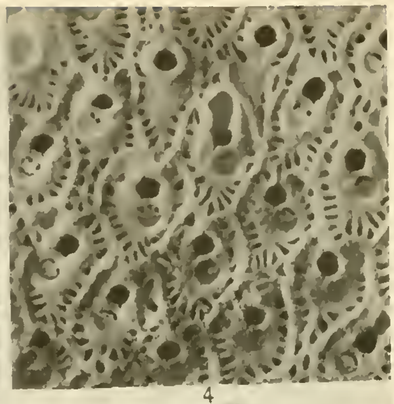
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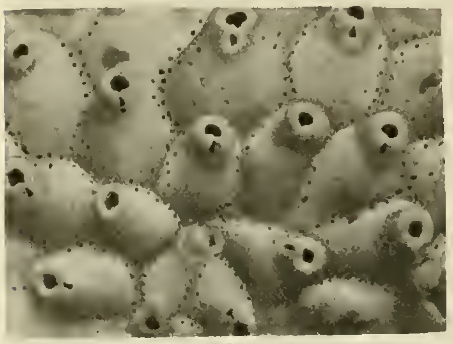
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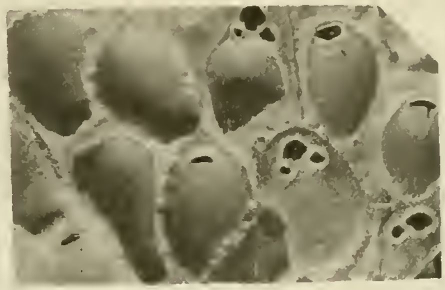
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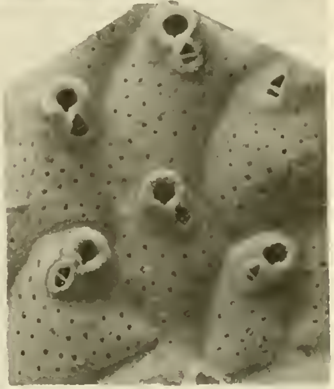
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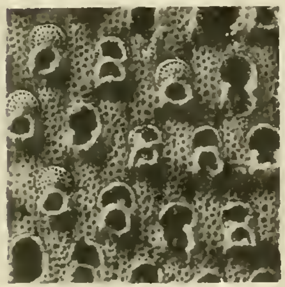
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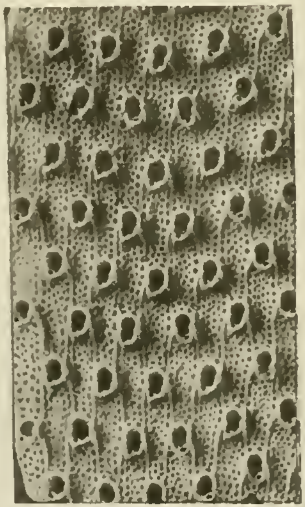
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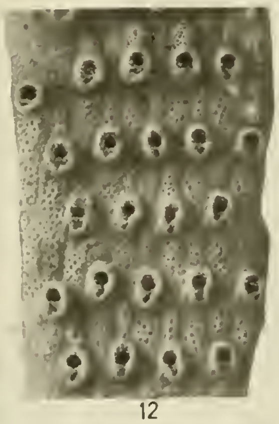
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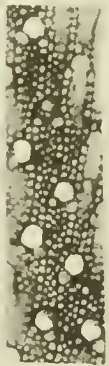
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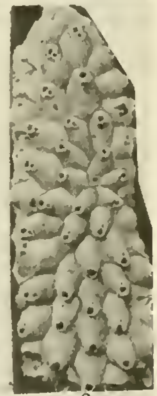
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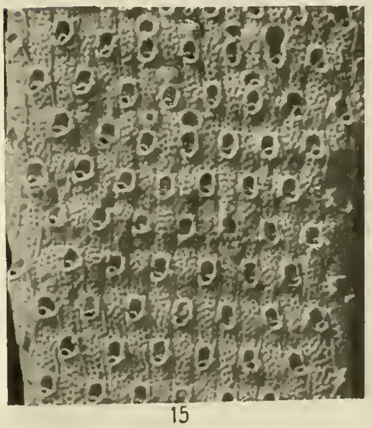
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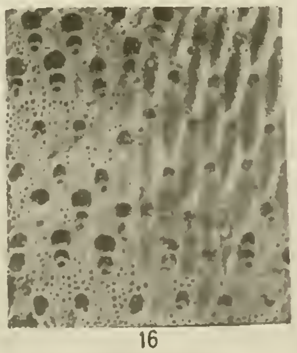
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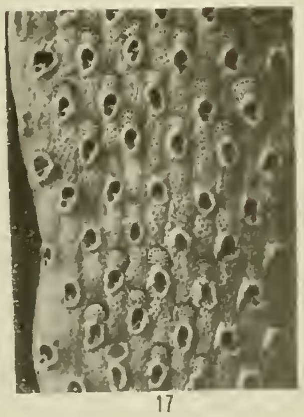
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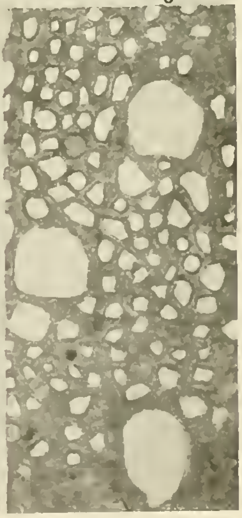
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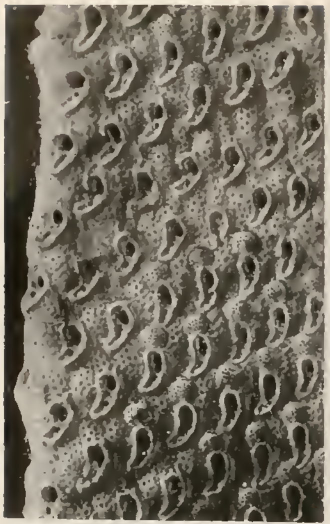
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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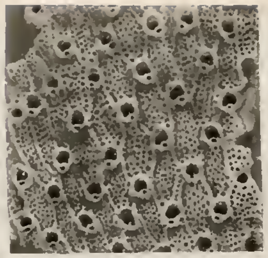
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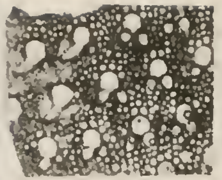
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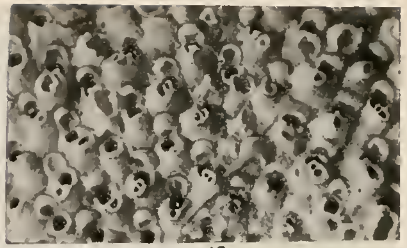
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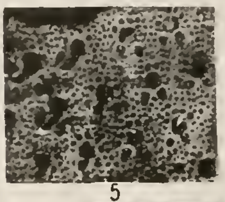
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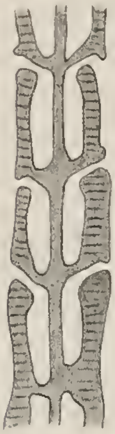
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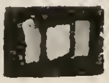
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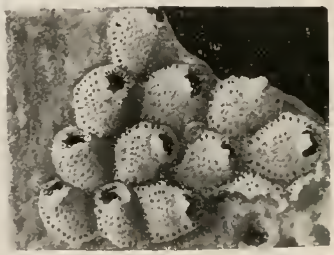
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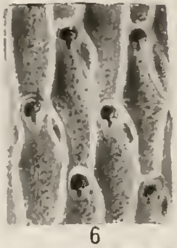
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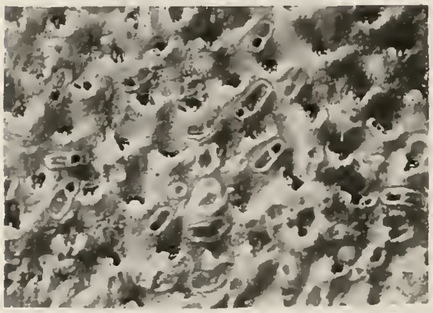
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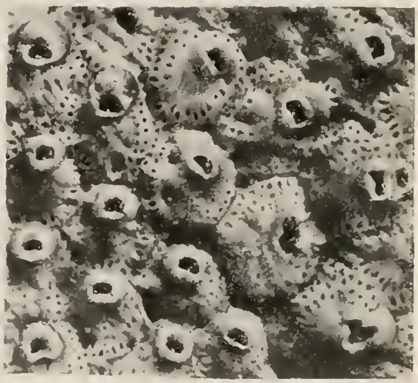
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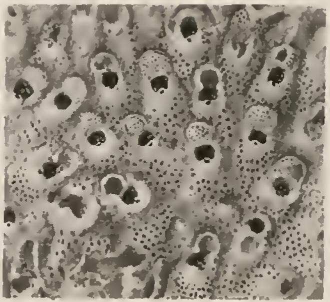
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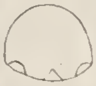
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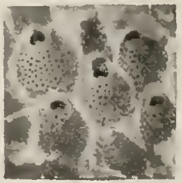
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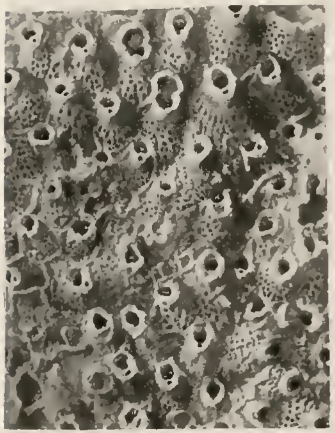
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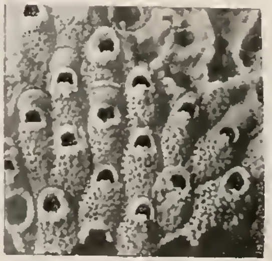
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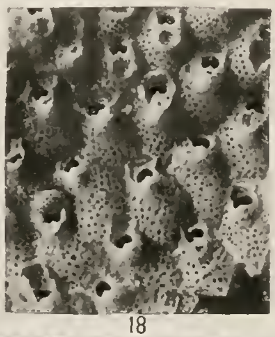
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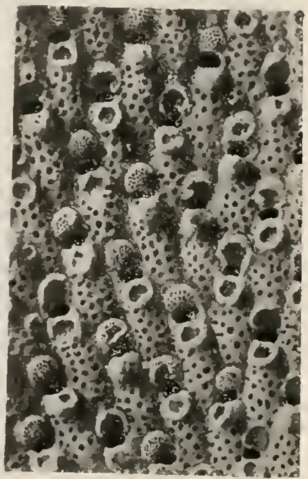
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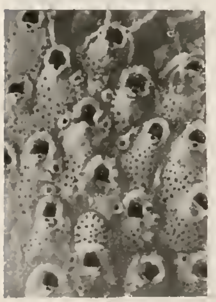
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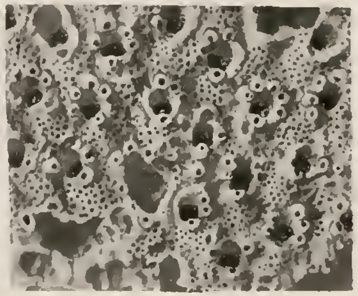
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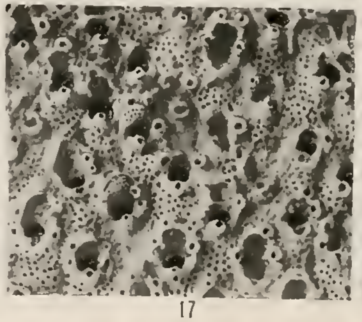
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Jacksonian Cheilostomatous Bryozoa.

PLATE 62.

FIGS. 1–7. *Plagiosmittia virgula*, new species (p. 473).

1. Three examples of the free bilamellar zoarium, natural size.
2. Portion of a branch, × 20, with both ovicelled and ordinary zooecia. The median avicularium is transformed into a large unguiculate one.
3. A fragment, × 20, with the zooecia separated by a salient thread.
4. Tangential thin section, × 25. The median avicularium is sometimes replaced by two peristomial avicularia.
5. Interior of zooecia, × 20. The median avicularium is replaced in part by two peristomial ones and sometimes by the large comma-shaped form.
6. View of the interior, × 30, illustrating the two condyles back of the apertura.
7. Drawing of a vertical section, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64137, U.S.N.M.

FIGS. 8, 9. *Mucronella granulosa*, new species (p. 475).

8. Surface of the incrusting zoarium, × 20, showing zooecia with granular pleurocyst and obliquely directed mucro.
9. Sketch of the apertura showing the lyrula and the two small cardelles.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64138, U.S.N.M.

FIG. 10. *Mucronella patens*, new species (p. 475).

The incrusting zoarium, × 20. The zooecia are unusually wide and have an erect mucro and a small lyrula.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64139, U.S.N.M.

FIG. 11. *Rhamphostomella brendolensis*, var. *americana*, new variety (p. 477).

The incrusting zoarium, × 20, showing the indistinct zooecia and the large and small avicularia..

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64140, U.S.N.M.

FIG. 12. *Rhamphostomella convexa*, new species (p. 478).

Surface of the incrusting zoarium, × 20. The convex finely granulated frontal, the asymmetrical sinus of peristomie and oral avicularium are characteristic features.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 64141, U.S.N.M.

FIG. 13. *Porella granulosa*, new species (p. 484).

The incrusting type-specimen, × 20. The frontal is granulose with transversal pores between the granules.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64142, U.S.N.M.

FIG. 14. *Porella pungens*, new species (p. 487).

Ovicelled zooecia of the incrusting zoarium, × 20. Four rows of large pores form the tremocyst. The median avicularium is enormous and very salient. The umbo on which it is borne is frequently broken.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64143, U.S.N.M.

FIGS. 15–17. *Porella coronata*, new species (p. 485).

15. The incrusting zoarium, × 20, representing young zooecia separated by a prominent thread.
16. A more mature zoarium, × 20, exhibiting peristomial avicularia around apertura.
17. Another portion of the same zoarium, × 20, with ovicelled zooecia, the ovicells usually being broken.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64144, U.S.N.M.

FIGS. 18–21. *Porella irregularis*, new species (p. 481).

18. Zooecia of the incrusting zoarium, × 20, some of them showing traces of incompletely developed ovicells.
19. Ovicelled zooecia of a mature zoarium, × 20.
20. Another mature zoarium, × 20, illustrating irregularity in size and arrangement of zooecia.
21. Interior of zooecia, × 20. A small lyrula is visible.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64145, U.S.N.M.

Plate 63.

Figs. 1–5. *Porella denticulifera*, new species (p. 485).

1. Two examples of the bilamellar zoarium, natural size.
2. Surface of zoarium, × 20. The median avicularium, when well preserved, appears as a denticulated tube.
3. Ovicelled zooecia, × 20. The small pores of the ovicell are in marked contrast to the very large tremopores.
4. Interior of zooecia, × 20.
5. Tangential thin section, × 100. The large tremopores, the ovicell and apertura are shown in white, while the avicularium is in grey.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64146, U.S.N.M.

Figs. 6–17. *Porella jacksonica*, new species (p. 486).

6. Small fragments of the bilamellar zoarium, natural size.
7. Ordinary zooecia, × 20, showing the convexity of the frontal and the large mucro. This is the usual aspect.
8. Zooecia along margin of a zoarium, × 20. The mucro is much elongated.
9. Ovicelled zooecia, × 20.
10. Zooecia, × 20. Adventitious avicularia are developed. The zooecia are not distinctly marked.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64147, U.S.N.M.

11. Another aspect of the species, × 20. The dimensions are smaller than usual.
12. Portion of a zoarium, showing a frequent aspect of the species. The mucro is quite salient.
13. Zooecia, × 20, with both the ovicells and avicularia broken, a frequent occurrence.

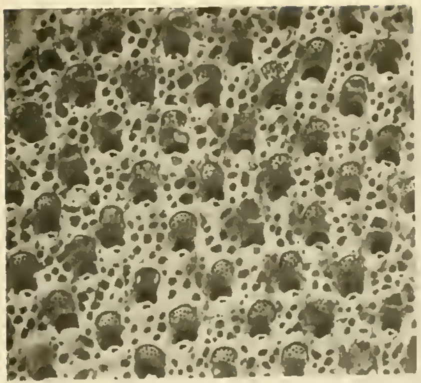
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64148, U.S.N.M.

14. Surface of an old zoarium, × 20, altered by calcification.
15. View of the interior, × 20, showing the white circles surrounding the pores of the olocyst. The zooecia are indistinct.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64149, U.S.N.M.

16. A zoarium, × 20, with stunted, indistinct zooecia.
17. Tangential thin section of a zooecium, × 100. The apertura, avicularia and tremopores are shown.

Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64150, U.S.N.M.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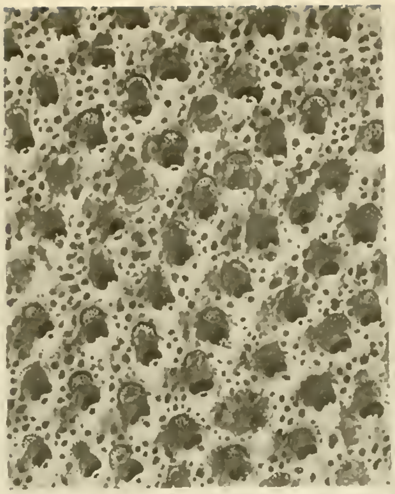
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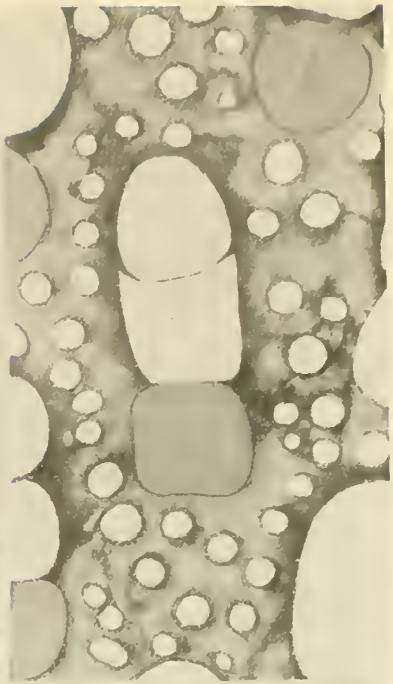
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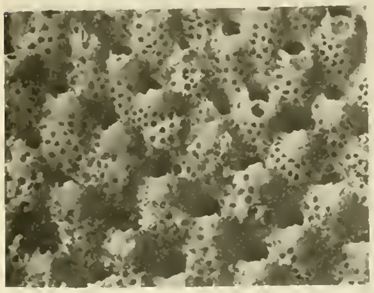
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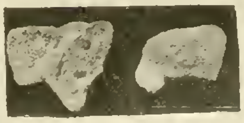
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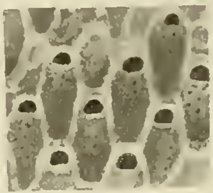
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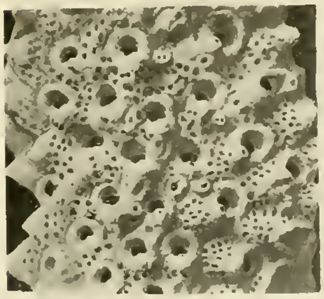
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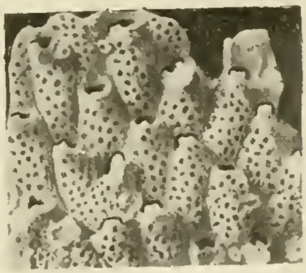
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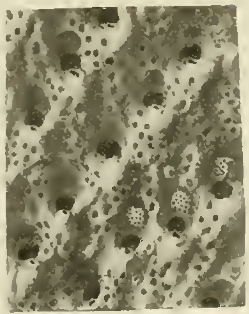
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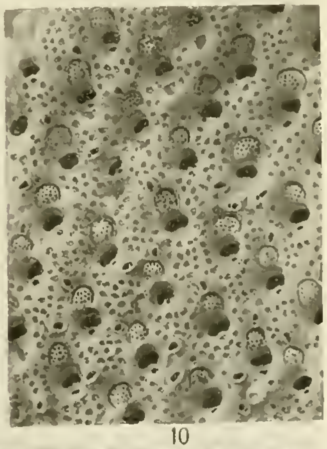
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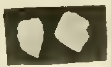
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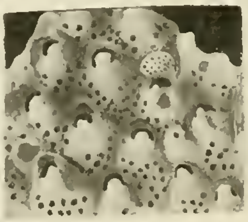
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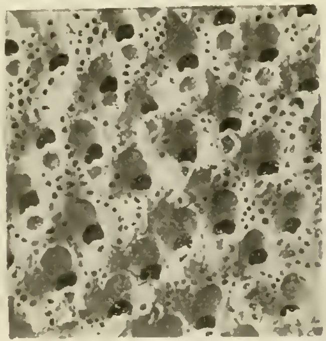
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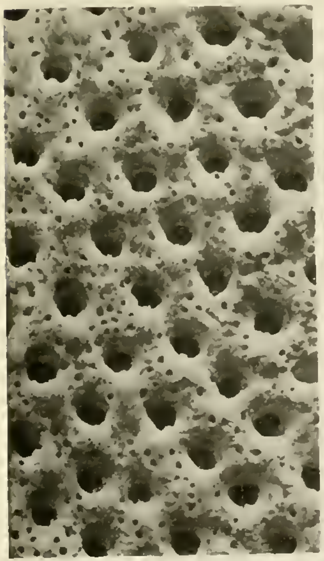
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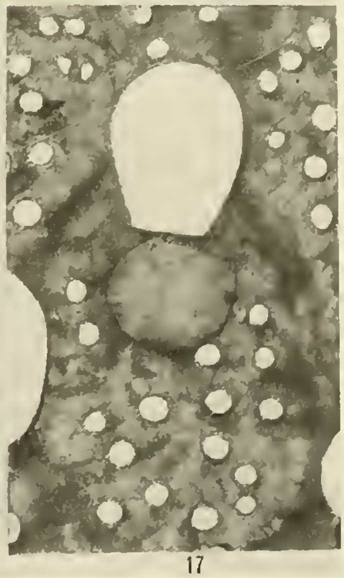
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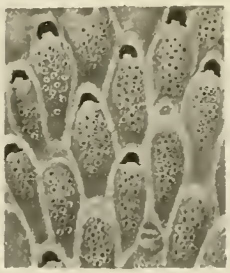
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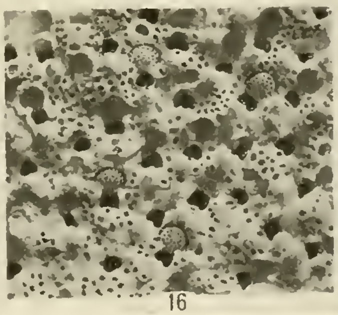
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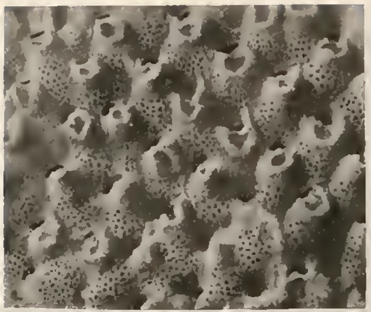
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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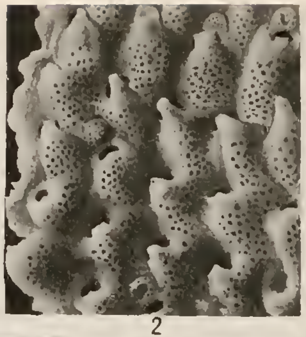
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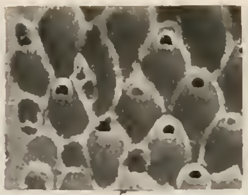
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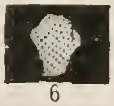
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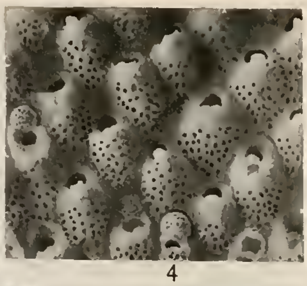
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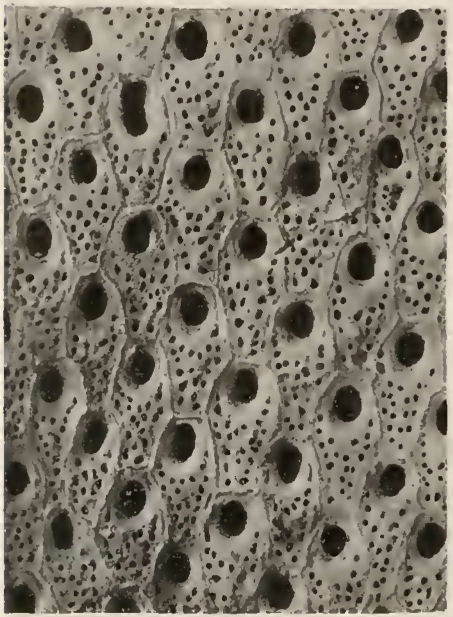
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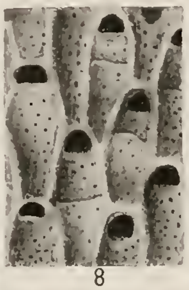
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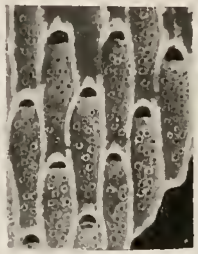
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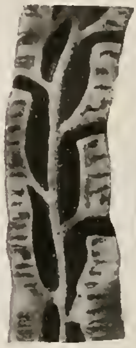
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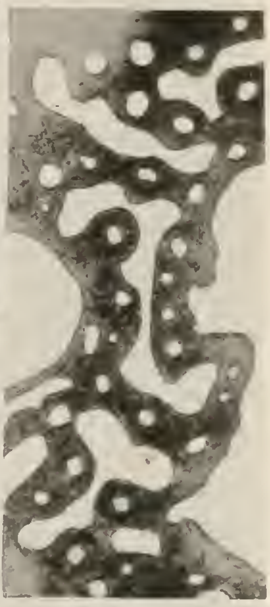
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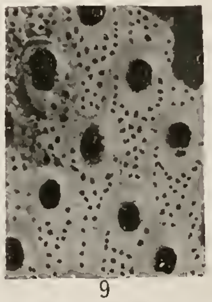
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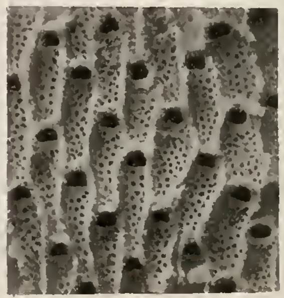
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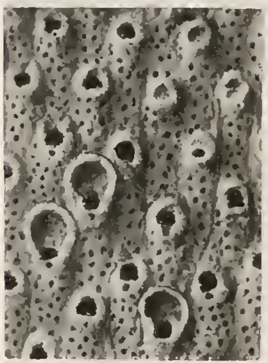
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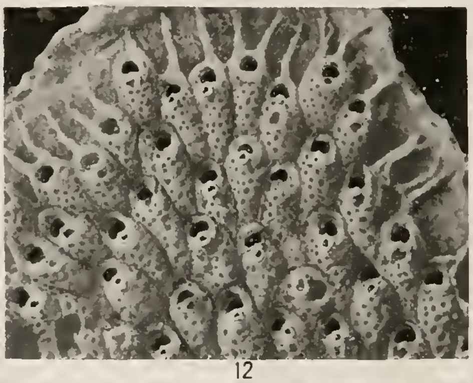
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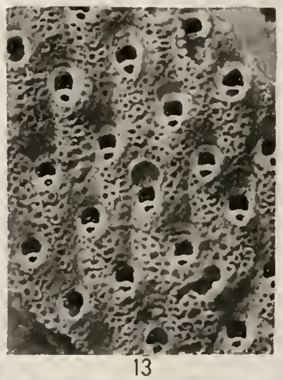
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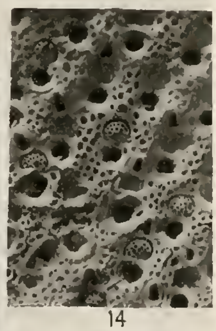
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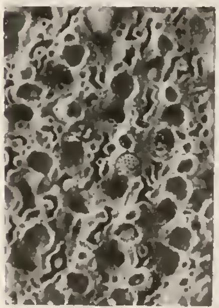
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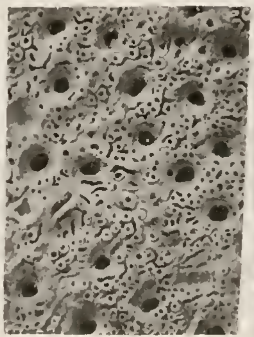
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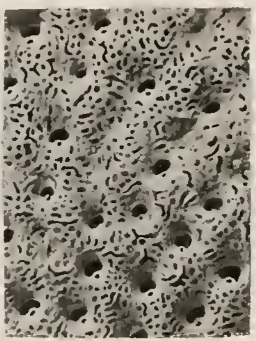
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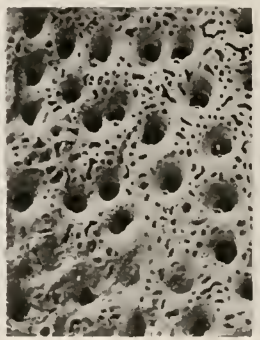
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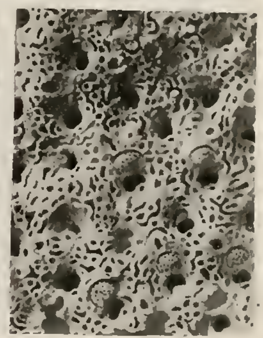
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Jacksonian Cheilostomatous Bryozoa.

PLATE 64.

FIGS. 1–5. *Porella unguiculata*, new species (p. 488)
1. Fragment of the unilamellar creeping zoarium, natural size.
2. Ordinary and ovicelled zooecia, × 20, with the large umbo well preserved.
3. Another zoarium, × 20. The umbo is broken and represented by a cicatrix.
4. Another aspect of the zoarial surface, × 20.
5. Interior of zooecia, × 20, showing the thick olocyst.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64151, U.S.N.M.

FIGS. 6–9. *Porella planulata*, new species (p. 488).
6. The bilamellar type-specimen, natural size.
7. Surface of the same, × 20. Only ordinary zooecia and an avicularian zooecium (in the upper corner) are shown.
8. Interior of zooecia, × 20. Certain zooecia are divided into two parts.
9. An abraded zoarial surface, × 20. The avicularium is seen buried in the tremocyst of one zooecium. An avicularian zooecium is present.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64152, U.S.N.M.

FIGS. 10–23. *Porella portentosa*, new species (p. 489).
10. Fragments of the bilamellar zoarium, natural size
11. Aspect of the zooecial surface, × 20, when the tubules are adjacent.
12. Marginal zooecia, × 20, showing incomplete calcification.
13. A frequent aspect of the species, × 20.
14, 15. Two views of ovicelled zooecia, × 20. The frontal of the ovicell has minute pores.
16. Ordinary zooecia, × 20, with well developed tubules.
17. Surface, × 20, showing several calcified zooecia.
18. A strongly calcified surface, × 20. The intertubular spaces are coalesced.
19. Ordinary and ovicelled zooecia, × 20. The tubules give a bizarre aspect to the surface.
20. Interior of zooecia, × 20, showing the pores of the olocyst surrounded by a white circle.
21. Interior, × 20, showing the tremopores.
22. Vertical section, × 20.
23. Tangential thin section, × 100, illustrating structure of the tubules.

Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64153, U.S.N.M.

PLATE 65.

FIGS. 1–3. *Porella abdita*, new species (p. 489).

1. Two fragments of the bilamellar zoarium, natural size.
2. The usual aspect of the surface. × 20.

Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64154, U.S.N.M.

3. View of a more calcified zoarium. × 20. A closed zooecium is seen in the center of the figure.

Upper Jacksonian (Ocala limestone): Nine miles north of Ocala, Florida.
Cat. No. 64155, U.S.N.M.

FIGS. 4–8. *Phoceana simulator*, new species (p. 496).

4. A group of the free, cylindrical unbranched zoaria, natural size.
5. Zoarium. × 20. The peristome occasionally bears a small avicularium.
6. Another example, × 20, with the pseudolyrula visible.
7. The usual aspect of the species. × 20.
8. Longitudinal section of a zooecium. × 20.

ap, apertura; *av*, peristomial avicularium; *ol*, olocyst; *pc*, peristome; *pi*, peristomie; *pie*, peristomice; *z*, zooecium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64156, U.S.N.M.

FIGS. 9–14. *Retepora scutulata*, new species (p. 504).

9. Fragments of the free, reticulated zoarium, natural size.
10. Finely granulated dorsal side. × 20.
11. A branch with ovicelled zooecia, × 20.
12. The usual aspect of the species, × 20, showing the indistinct zooecia.
13. Ordinary and ovicelled zooecia, × 20. A small avicularium is present on the anterior lip of the peristomie. The ovicell bears a round cleft.
14. Smooth dorsal side, × 20. Vibices are very rare.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64157, U.S.N.M.

FIGS. 15–25. *Retepora ramosa*, new species (p. 501).

15. Fragment of the free dichotomously branched zoarium, natural size.
16. Usual aspect of the celluliferous side. × 20.
17. View of another specimen, × 20, in which the tuberosities are less developed.

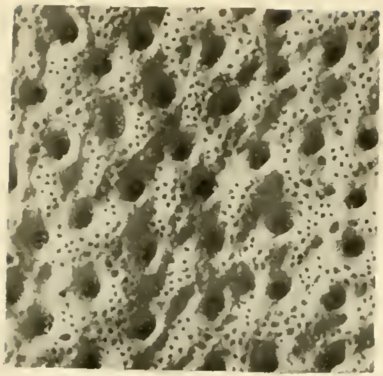
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64158, U.S.N.M.

18. A fragment, × 20, with strongly developed tuberosities.
19. Ovicelled zooecia, × 20, with fissure of ovicells shown frequently.
20. Dorsal, × 20, with vibices replaced by furrows.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64159, U.S.N.M.

21. An example, × 20, with the spiramen well exhibited.
22. Dorsal, × 20, preserving vibices with pores between them.
23. Tangential thin section, × 20. The relations of the ovicell, apertura and spiramen are shown.
24. A branch, × 20, bearing zooecia with a very large spiramen.
25. Sketch of a longitudinal section, × 20, through a zooecium with ovicell.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64158, U.S.N.M.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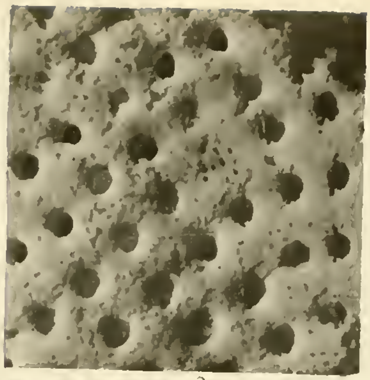
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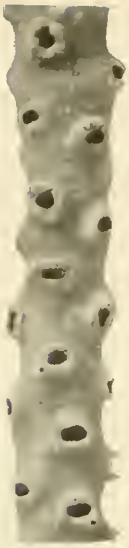
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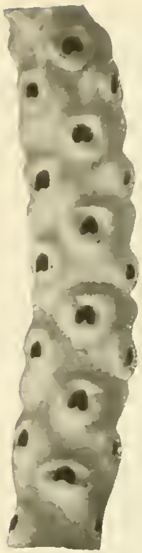
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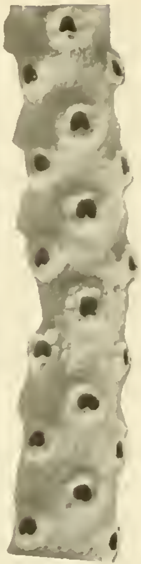
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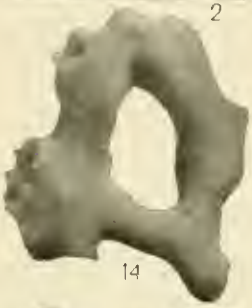
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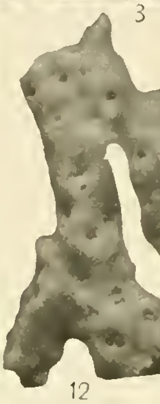
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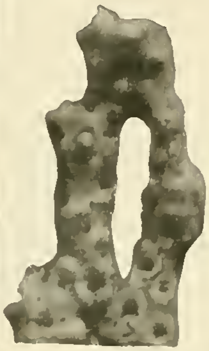
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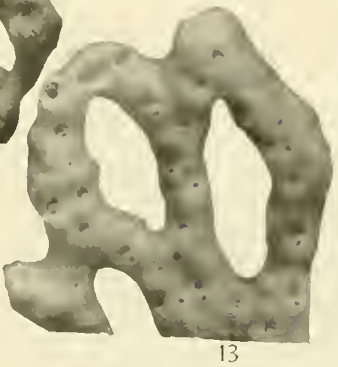
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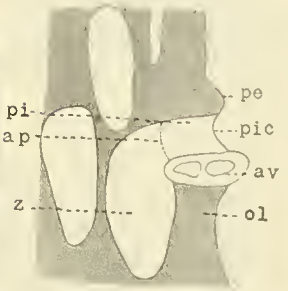
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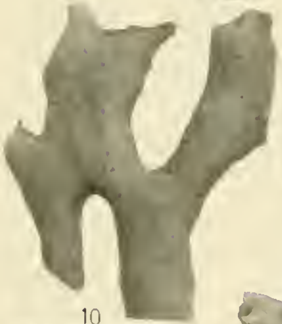
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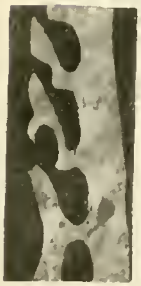
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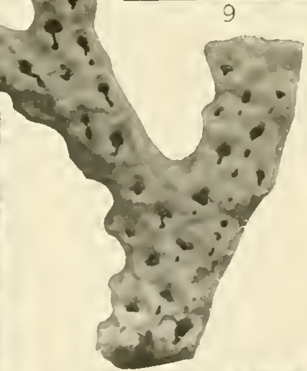
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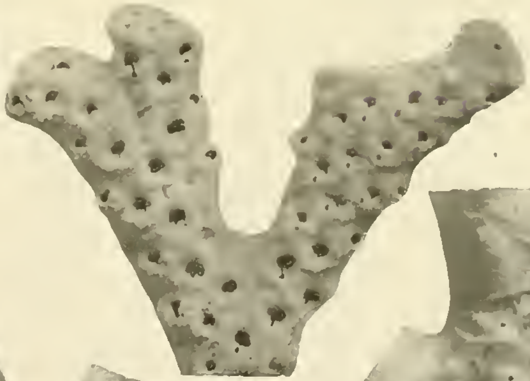
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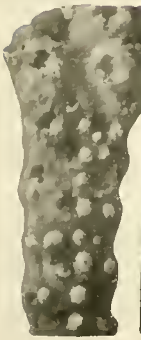
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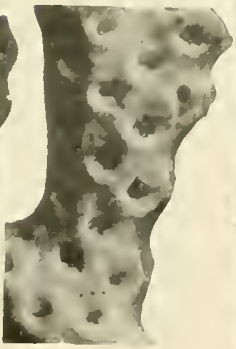
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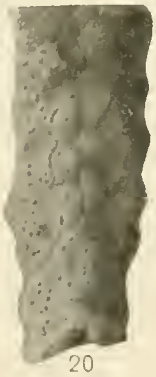
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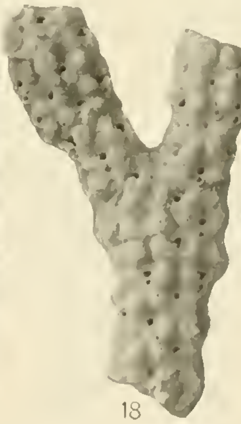
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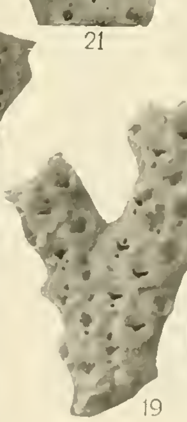
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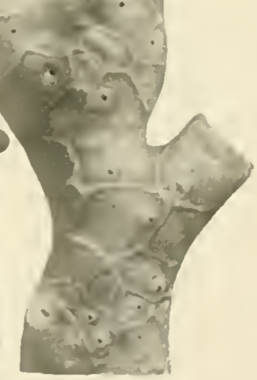
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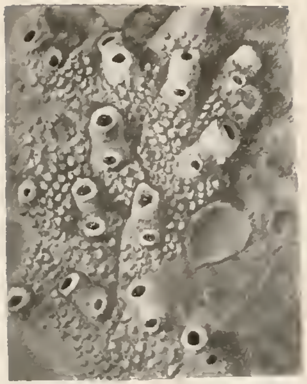
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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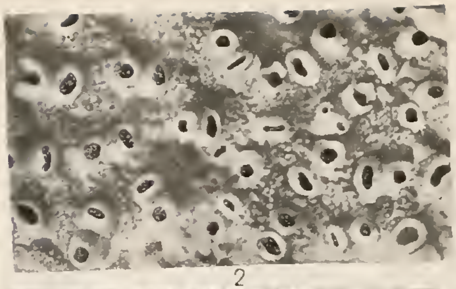
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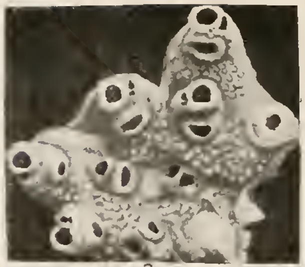
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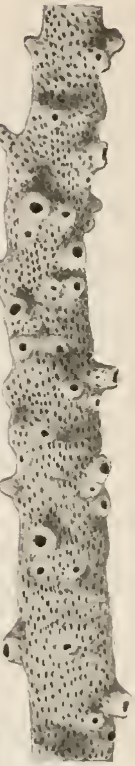
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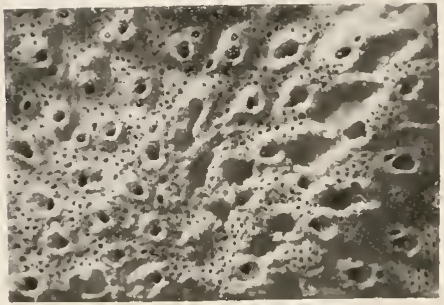
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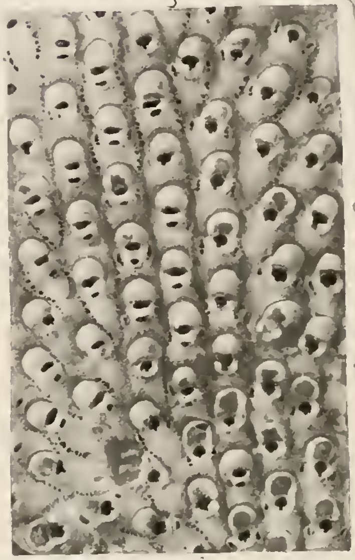
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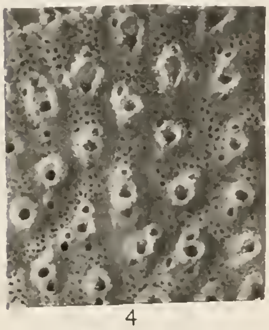
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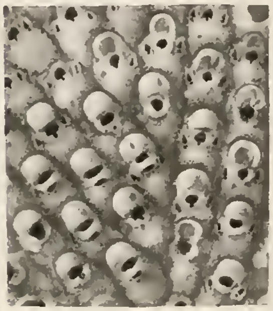
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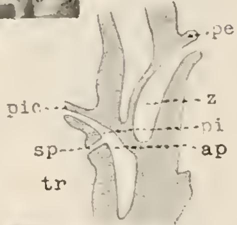
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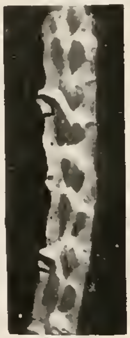
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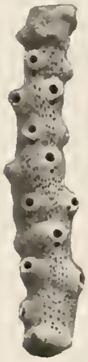
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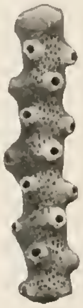
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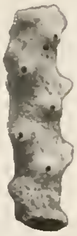
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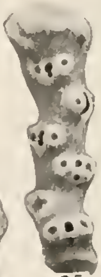
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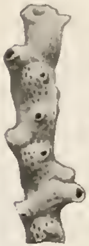
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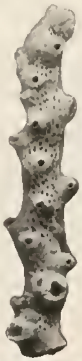
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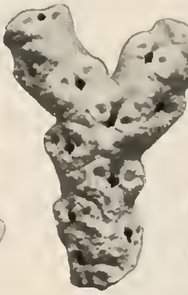
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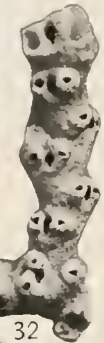
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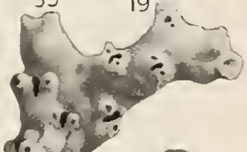
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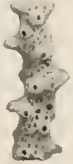
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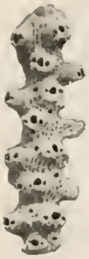
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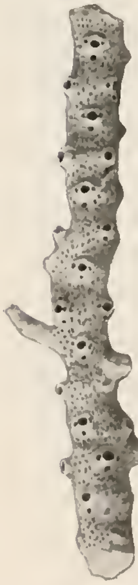
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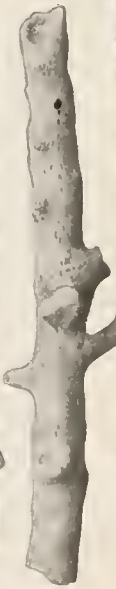
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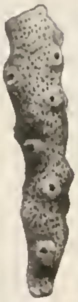
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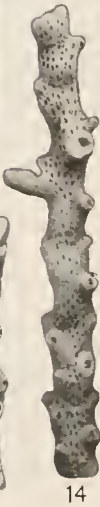
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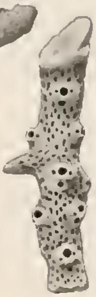
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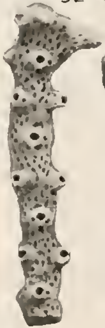
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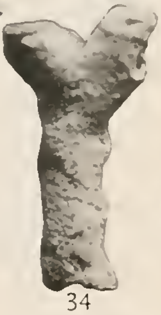
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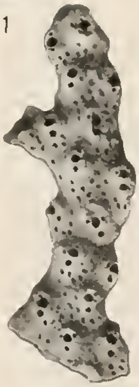
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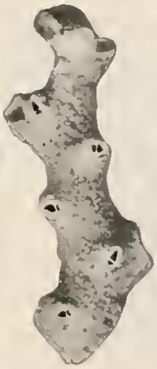
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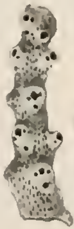
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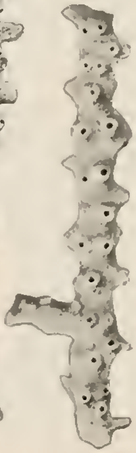
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Jacksonian Cheilostomatous Bryozoa.

PLATE 66.

FIG. 1. *Galeopsis longicollis*, new species (p. 512).
The incrusting type-specimen. × 20. The long peristomie is characteristic.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64160, U.S.N.M.

FIG. 2. *Galeopsis erinaceus*, new species (p. 514).
The incrusting zoarium, × 20, showing the elongated narrow spiramen and the spines of the surface.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64161, U.S.N.M.

FIG. 3. *Galeopsis verrucosa*, new species (p. 513).
The unilamellar zoarium, × 20. The immense spiramen, the triangular avicularium and the wart-like projections of the frontal are to be noted.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64162, U.S.N.M.

FIGS. 4, 5. *Galeopsis cyclops*, new species (p. 514).
4. The incrusting zoarium, × 20, showing mature zooecia with spiramen and avicularia. A few young zooecia without spiramen are present.
5. Ancestrula and surrounding zooecia, × 20. The ancestrula is an ordinary zooecium.
Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64163, U.S.N.M.

FIGS. 6, 7. *Schizaropsis convexa* Canu and Bassler, 1917 (p. 515).
6. The incrusting zoarium, × 20, with ovicelled zooecia. Some of the zooecia exhibit the spiramen but many of them show the rectilinear rimule.
7. Fragment of another zoarium, × 20.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 62603, U.S.N.M.

FIGS. 8–10. *Haswellia gracilis*, new species (p. 517).
8. The free cylindrical zoarium, × 20. The round pore just below the peristome is the spiramen. The other large pores are avicularia.
9. Longitudinal section, × 20.
ap, apertura; *pe*, peristome; *pi*, peristomie; *pie*, peristomice; *sp*, spiramen; *tr*, tremocyst; *z*, zooecium.
10. The type-specimen, natural size.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64164, U.S.N.M.

FIGS. 11–23. *Semihaswellia exilis*, new species (p. 518).
11. Four fragments of the thin, free, cylindrical zoarium, natural size.
12. Celluliferous side of a zoarium, × 20, showing the peristomie with two small lateral avicularia and a small spiramen.
13. Dorsal side of the same specimen, × 20. An avicularium is developed and the lateral appendages are well shown.
14. Dorsal of a zoarium, × 20, in which the tremocystal sulci are barely visible.
15, 16. Frontal side of two fragments, × 20. The sulci are quite distinct.
17, 18. Dorsal side of two fragments, × 20, showing the small round avicularia.
19. Vertical section through a branch, × 20. The zooecia are seen opening on one side. Two zooecia show the spiramen.
Vicksburgian (Glendon division of Marianna limestone): West bank, Conecuh River, Escambia County, Alabama.
Cat. No. 64165, U.S.N.M.
20, 21. Celluliferous side of two fragments from the Jacksonian, × 20, forming a variety with closely arranged verticells.
22, 23. Two fragments, × 20, exhibiting the dorsal with avicularia.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64166, U.S.N.M.

FIGS. 24–27. *Semihaswellia tripora*, new species (p. 518).
24. Dorsal side of the free unbranched zoarium, × 20. Three rows of small avicularia are present.
25, 26. Two fragments, × 20, showing the features of the celluliferous side.
27. Dorsal side of a large fragment, × 20, bearing a lateral apophysis. The usual small avicularia are present.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64167, U.S.N.M.

FIGS. 28–29. *Semihaswellia ? clara*, new species (p. 519).
28. Celluliferous face of the free, compressed zoarium, × 20. There are three rows of zooecia. The tremopores are scattered.
29. Dorsal side of anoother fragment, × 20. The surface is granular, and two riws of salient avicularia with pivot are present.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64168, U.S.N.M.

FIGS. 30–35. *Gigantopora filiformis*, new species (p. 520).
30. A group of the free, thread-like, branched zoaria, natural size.
31, 32. Celluliferous side of two fragments, × 20, showing the smooth frontal, the lateral avicularia and the usual aspect of the peristomice.
33. A bifurcated fragment, × 20. The rimule of the aperture is visible
34. Dorsal of zoarium, ×20. It is usually smooth, rarely porous.
35. A branch, × 20, showing several zooecia provided with the spiramen.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64169, U.S.N.M.

PLATE 67.

FIG. 1. *Tessaradoma ornata*, new species (p. 521).

Celluliferous side of the free, compressed zoarium, × 20. The frontal is smooth and has areolae. The peristome bears two small avicularia, and the frontal also has a few simple avicularia in addition to the spiramen.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64170, U.S.N.M.

FIGS. 2, 3. *Tessaradoma grandipora*, new species (p. 522).

2. The free, compressed branching zoarium, × 20. The wide peristome and the spiramen opening, close to the peristomie, are shown.

3. Dorsal side of another example, × 20. The dorsal is a tremocyst and bears a median row of avicularia.

Upper Jacksonian (Ocala limestone): West bank Sepulga River, Escambia County, Alabama.
Cat. No. 64171, U.S.N.M.

FIGS. 4–23. *Tremotoichos rectifurcatum* Canu and Bassler, 1917 (p. 523).

4. Three fragments of the free, subcylindrical zoarium, natural size.

5. A young specimen, × 20, showing the thin peristome with avicularium, the tremocystal frontal and the spiramen to the right or left of the median axis.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62606, U.S.N.M.

6, 7. Celluliferous side of two fragments, × 20. The spiramen is not always visible and the peristome often bears two avicularia.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64172, U.S.N.M.

8. A young example, × 20, in which the spiramen is not plainly visible.

9. Two fragments, natural size, of much branched zoaria.

10. Dorsal of an old example, × 20. The branches are close together.

11. Celluliferous side of another old example, × 20. The spiramen is lost among the sulci, and the peristomie is often obscured.

12. Portion of a mature specimen, × 20, showing another aspect of the species. The spiramen is not apparent.

13, 14, 15. Transversal sections, × 20, exhibiting thickness of the outer walls.

16. Schematic drawing of a vertical section.
ap, apertura; *pe*, peristome; *pi*, peristomie; *pic*, peristomice; *sp*, spiramen; *tb*, tubule; *tr*, tremocyst; *z*, zooecium.

17. Vertical thin section, × 20, showing that the tubules of the tremocyst are confused.

18. View of zoarium, after frontal has been abraded, × 20. The line (*am*) is shown also in fig. 15.

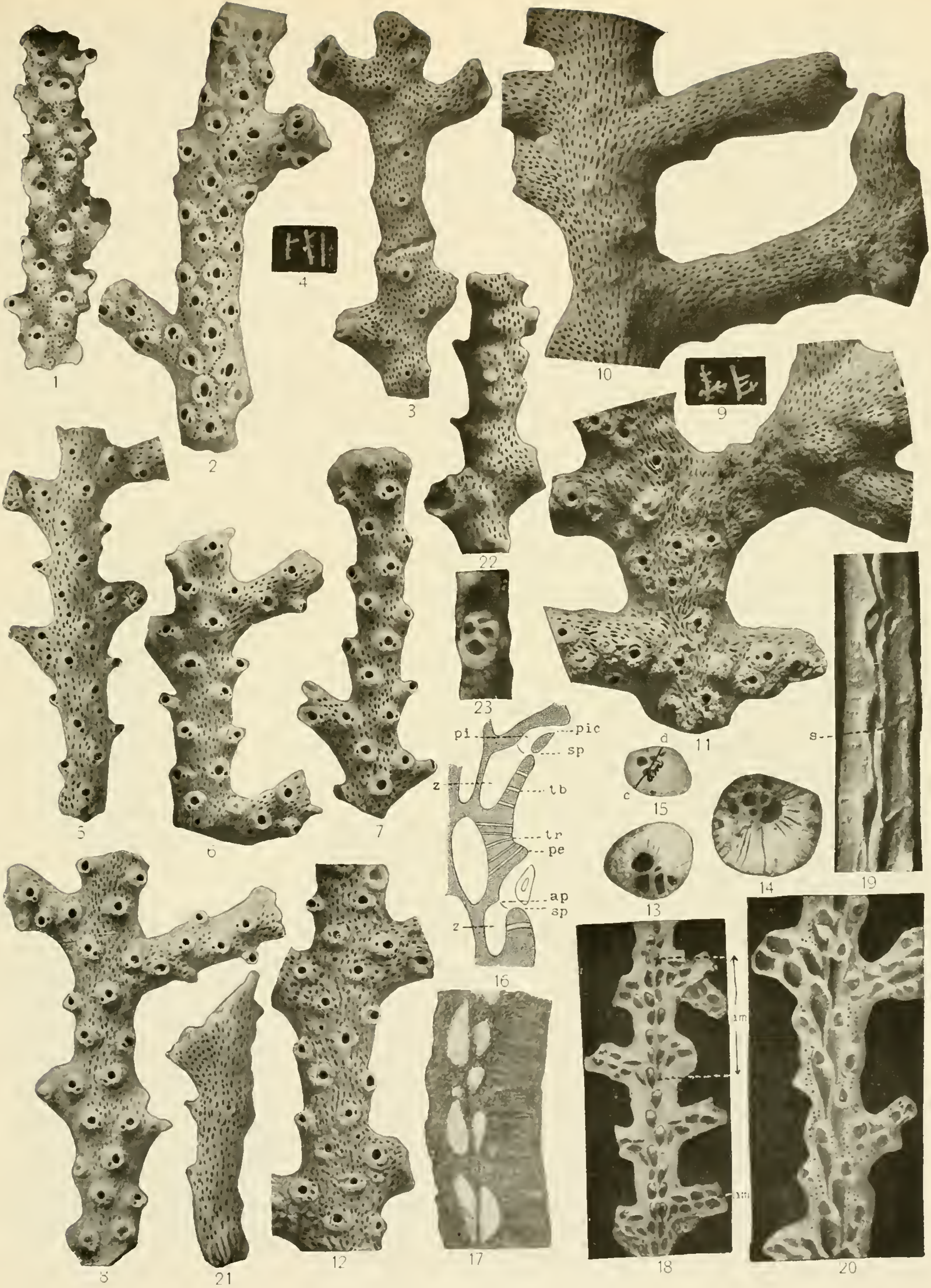
19. Vertical section, × 20. The zooecia communicate by septulae (*s*).

20. Interior of zooecia, × 20. No pores on the zooecial front are apparent.

21, 22. Dorsal of young specimens, × 20.

23. Lateral view, × 20, showing transverse section of a side branch.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62606, U.S.N.M.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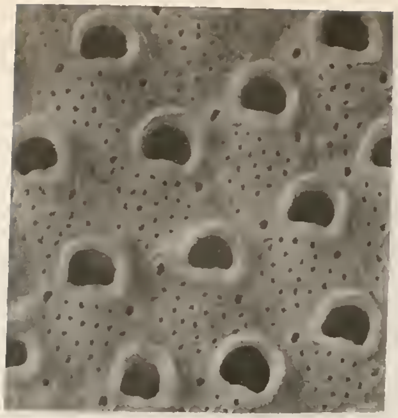
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.



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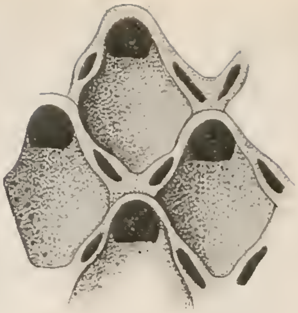

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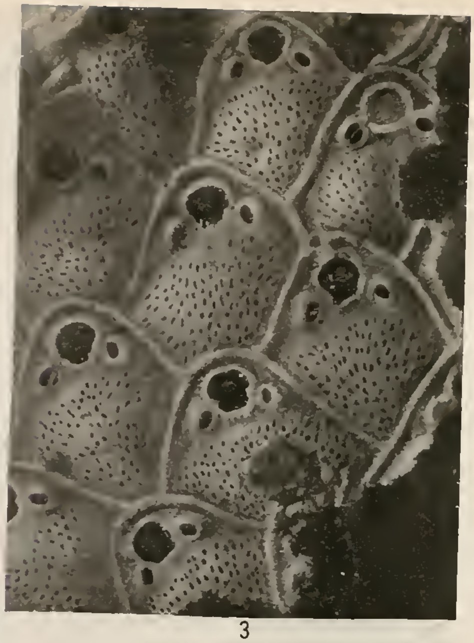

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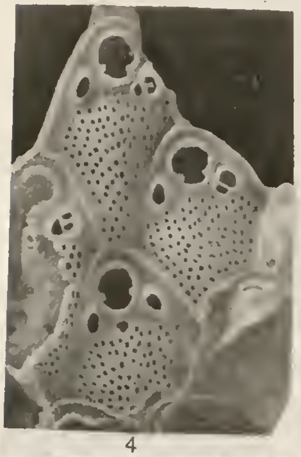

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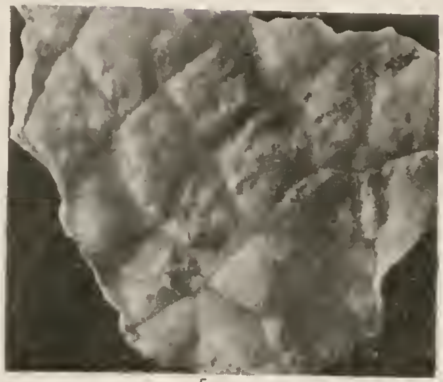

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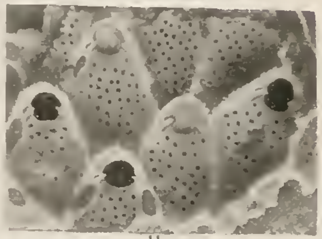

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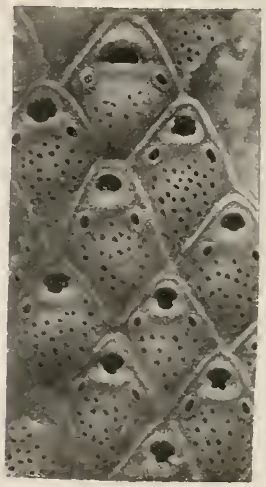

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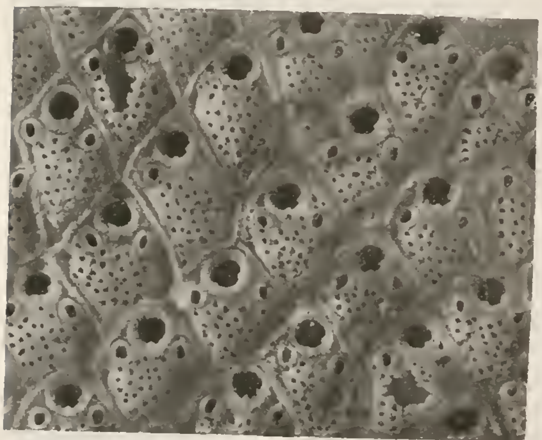

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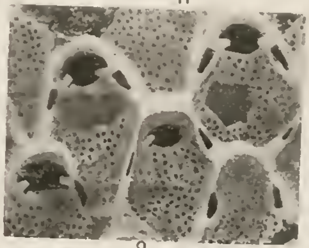

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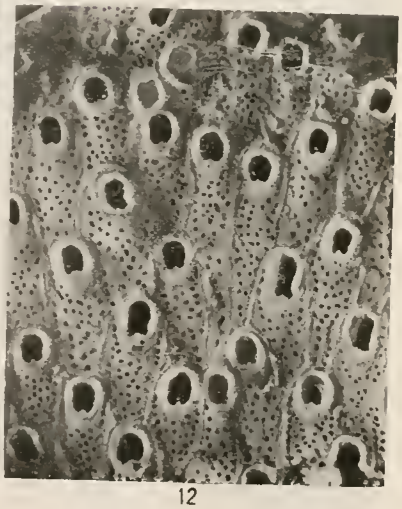

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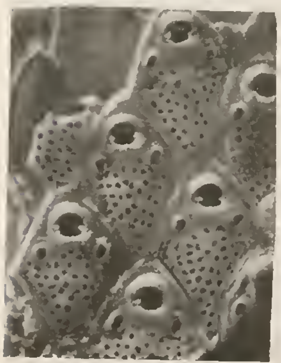

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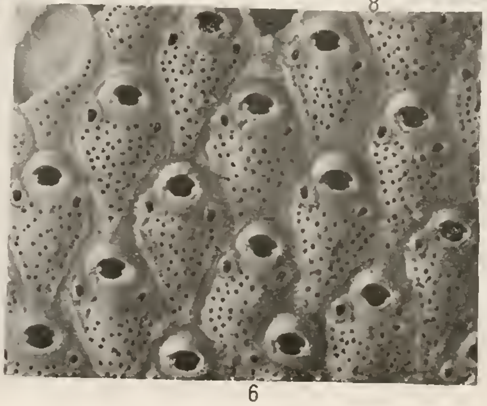

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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 68.

FIGS. 1, 2. *Cheilopora prelucidioides*, new species (p. 527).

1. Surface of the bilamellar zoarium. × 20. The zooecia are large and their frontal has tremopores placed at the base of hexagonal areas.
2. Interior of the zooecia, × 20, exhibiting the large fusiform dietellae of the lateral walls.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64173, U.S.N.M.

FIGS. 3–5. *Cheilopora grandis*, new species (p. 528).

3. The unilamellar zoarium, × 20. One apertura is closed by a calcareous lamina.
4. Several zooecia, × 20, illustrating the form of the apertura quite clearly.
5. Basal side of zooecia, × 10.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64174, U.S.N.M.

FIGS. 6–8. *Cheilopora transversoides*, new species (p. 530).

6. Ordinary zooecia of the bilamellar zoarium, × 20, exhibiting the transverse apertura with the two median cardelles.
7. Surface of another zoarium, × 20.
8. Interior of zooecia, × 20. The fusiform dietellae and the two condyles are shown.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64175, U.S.N.M.

FIGS. 9–11. *Cheilopora saillans*, new species (p. 528).

9. Ordinary zooecia of the bilamellar zoarium, × 20. Both the avicularia and the separating line are quite prominent.
10. Another zoarium, × 20. An ovicelled zooecium is seen at the top.
11. View of the interior of zooecia, × 20. The condyles of the apertura and the dietellae-like openings are visible. Several apertures are closed by a calcareous lamina.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64176, U.S.N.M

FIG. 12. *Cheilopora strictocella*, new species (p. 527).

Surface of the plurilamellar zoarium, × 20, showing the narrow zooecia separated by a salient thread. The three elongated openings belong to avicularian zooecia.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64177, U.S.N.M.

PLATE 69.

FIGS. 1–5. *Cheilopora specula*, new species (p. 531).

1. Ordinary zooecia of the incrusting zoarium, × 10, with the tubular avicularia well developed.
2. Portion of fig. 5, × 20, showing the extraordinary development of the peristome.
3. Zoarial surface, × 10, showing several closed zooecia.
4. Portion of a zoarium, × 20. Two of the zooecia are ovicelled.
5. Zoarium, × 10.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64178, U.S.N.M.

FIG. 6. *Cheilopora transversa*, new species (p. 529).

Surface of the bilamellar zoarium, × 20. The transverse aperture is quite evident, while that of the ovicelled zooecia is distinctly larger.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64179, U.S.N.M.

FIGS. 7, 8. *Cheilopora sulcifera*, new species (p. 531).

7. Surface of the unilamellar creeping zoarium, × 20, with the tremopores appearing like sulci.
8. Another zoarium, × 20, with elongated zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64180, U.S.N.M.

FIGS. 9–14. *Hippopodina vibraculifera* Canu and Bassler, 1917 (p. 532).

9, 10. Two longitudinal fractures, × 20, illustrating occurrence of the septulae.

11. Drawing, × 20, of a longitudinal section.
ov, ovicell; *s*, septulae; *v*, vibraculum; *z*, zooecium.

12. Ordinary zooecia of the bilamellar zoarium, × 20. Three of the zooecia show the tremocyst separated from the olocyst.

13. Interior of zooecia, × 20.

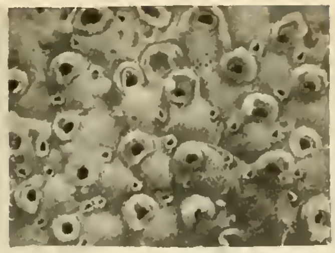
14. Ordinary and ovicelled zooecia, × 20. Four zooecia are closed by a finely perforated operculum.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62604, U.S.N.M.

FIG. 15. *Watersipora ? erecta*, new species (p. 538).

The free, erect bifoliate zoarium, × 20.

Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64181, U.S.N.M.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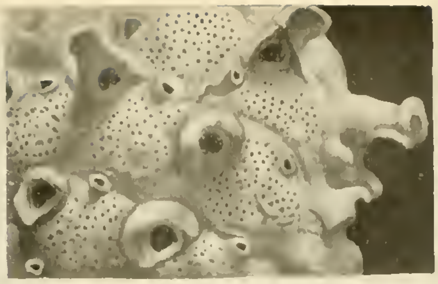
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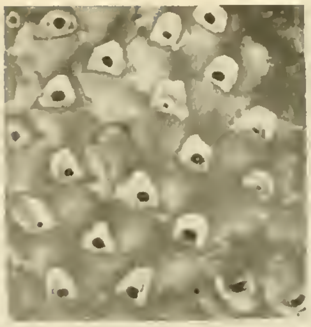
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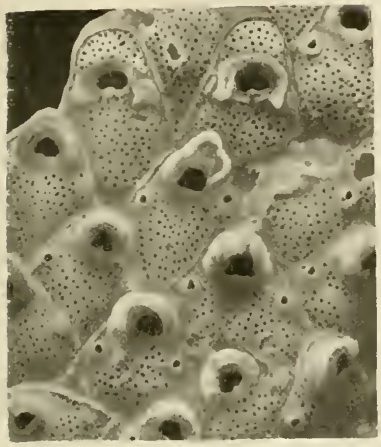
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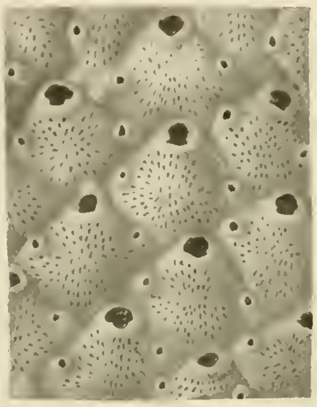
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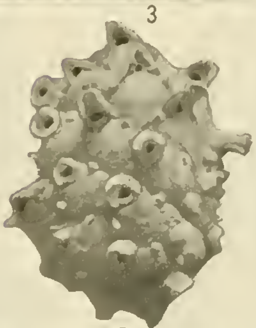
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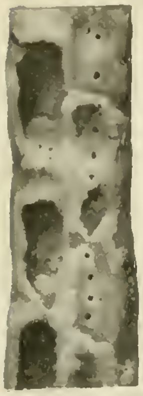
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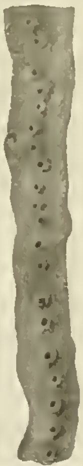
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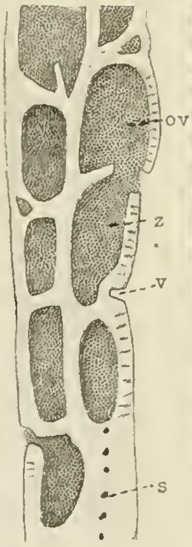

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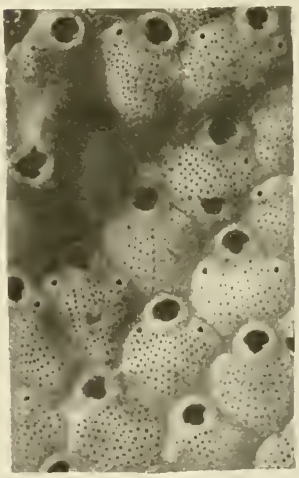
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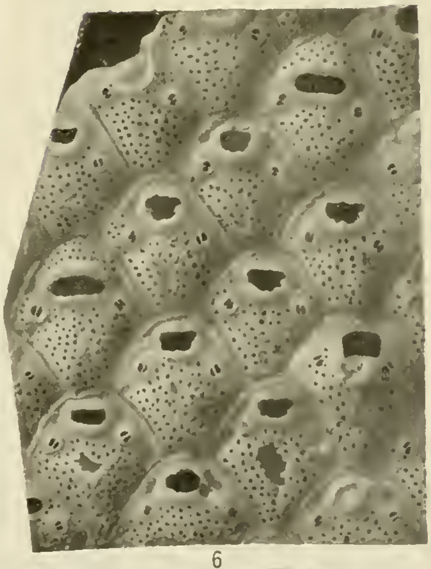
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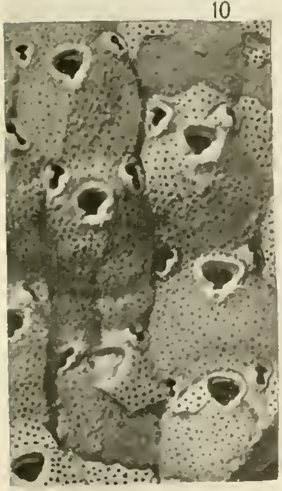
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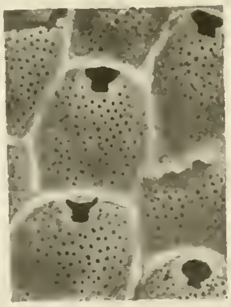
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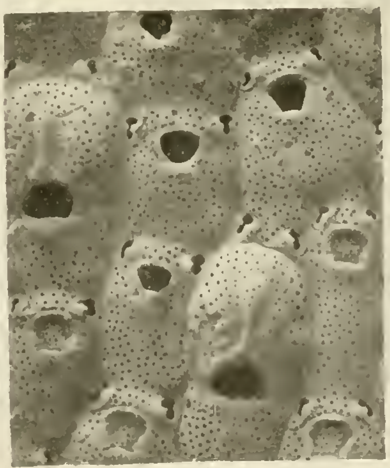
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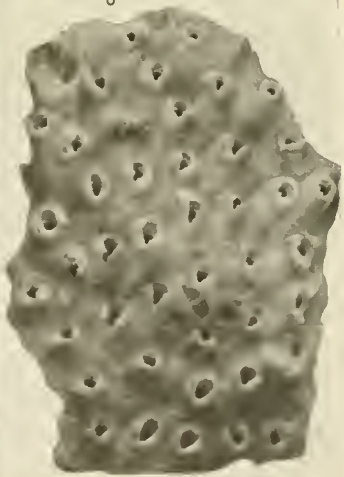
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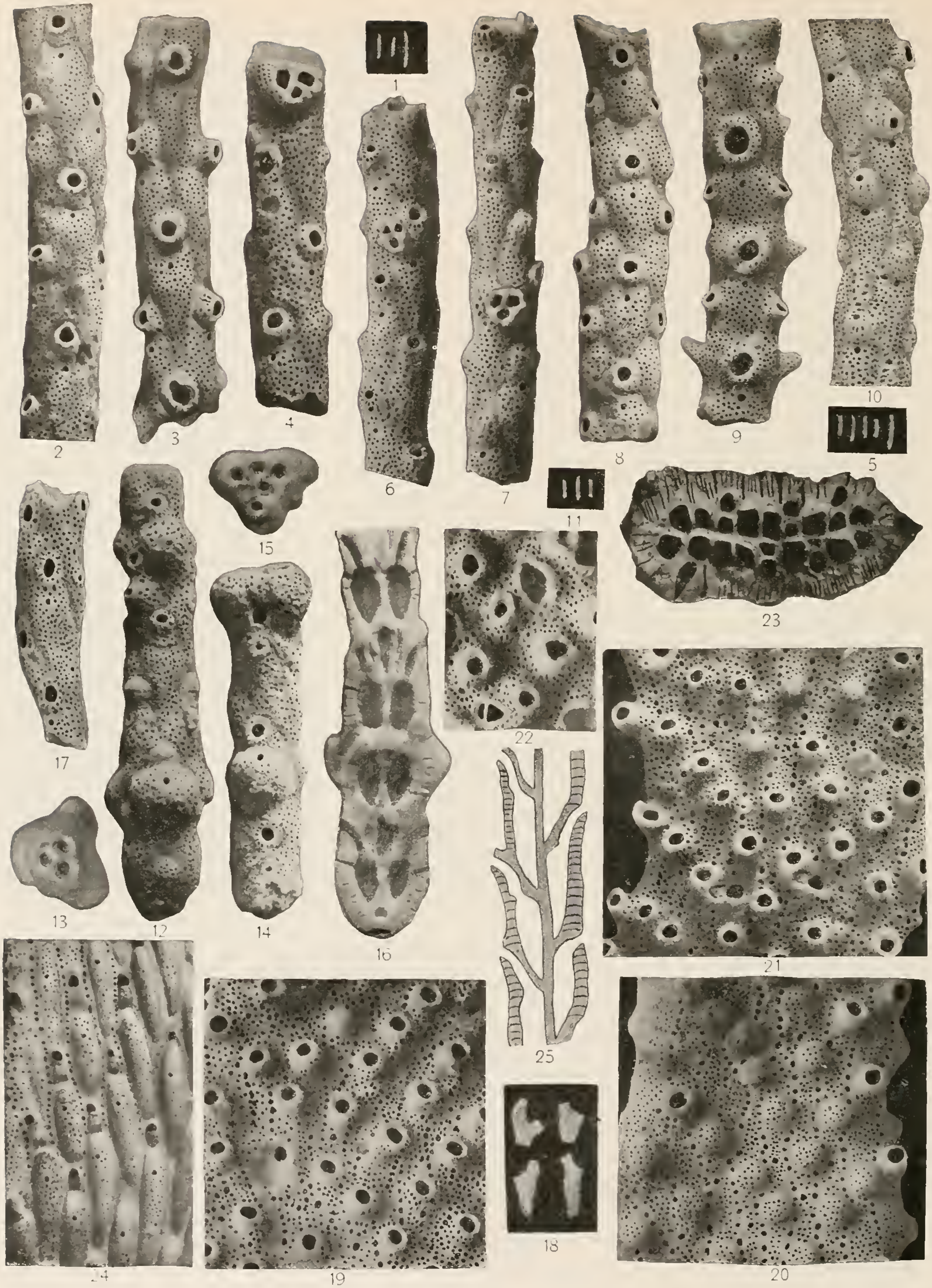
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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Jacksonian Cheilostomatous Bryozoa.

PLATE 70.

FIGS. 1–4. *Tubucellaria parviporosa*, new species (p. 543).

1. Three segments, natural size.
2. Normal aspect of the zooecia, × 20, with the closely arranged small frontal pores.
3. Another segment, × 20. An ovicelled zooecium is present at the base.
4. A branch, × 20, showing pores of articulation.

Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64182, U.S.N.M.

FIGS. 5–10. *Tubucellaria fallax*, new species (p. 543).

5. A group of segments, natural size.
6. An example, × 20, exhibiting the pores for articulation.
7. A segment, × 20, preserving several closed zooecia.

Middle Jacksonian: 18 miles west of Wrightsville, Georgia.
Cat. No. 64183, U.S.N.M.

8. Normal aspect of the zooecia, × 20.
9. A fragment, × 20, with three ovicelled zooecia.

Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64184, U.S.N.M.

10. An old segment, with closed zooecia, × 20.

Middle Jacksonian: Three and one-quarter miles south of Perry, Georgia.
Cat. No. 64185, U.S.N.M.

FIGS. 11–17. *Tubucellaria nodifera*, new species (p. 546).

11. Three fragments, natural size.
12. A segment, × 20, with the characteristic nodes.
13. View of lower end of the same specimen, × 20.
14. Another nodose segment, × 20. The lower node is distinctly seen to be formed about the ascopore.
15. Upper end view of this specimen, × 20.
16. Longitudinal section, × 20, illustrating structure of zooecia, ascopore and tubules
17. An example, × 20, with an ovicelled zooecium in the middle. The peristomes are broad.

Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64186, U.S.N.M.

FIGS. 18–25. *Tubucella monilifera* Canu and Bassler, 1917 (p. 547).

18. Four fragments of the free bilamellar zoarium, natural size.
19. The usual aspect of the zooecia, × 20.
20. A branch, × 20, with most of the zooecial apertures closed by the tremocyst.
21. Zooecia, × 20. Two avicularia are developed.
22. Surface of a branch, × 20, with ovicelled zooecia. A well preserved avicularium is seen at the bottom of the figure.
23. Transverse section, × 20
24. View of interior, × 20, showing ascopore opening far from the aperture. The visible orifice is the peristomice. The small transverse bar is the inferior lip of the apertura.
25. Sketch of longitudinal section, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62605, U.S.N.M.

PLATE 71.

FIGS. 1–9. *Tubucella gibbosa*, new species (p. 548).
1. The bilamellar, dichotomously branched zoarium, natural size.
2, 3. Two fragments, × 10, illustrating the gibbosities of the surfaces formed by the development of the tubules about the peristomie.
4. A portion of figure 2, × 20, showing structure in more detail. The ascopore is small and not easily distinguished from the frontal pores.
5. Isolated gibbosity of a branch, × 20, with the peristomies much enlarged by the growth of the tubules.
6, 7. Two longitudinal sections, × 20, exhibiting the internal structure. The tremocyst is very thick but sometimes thin.
8. Transverse section, × 20, of a fragment with nodosities.
9. Longitudinal section, × 20, showing that the nodosities of the surface are caused by the increased growth of the tubules.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64187, U.S.N.M.

FIGS. 10–12. *Bracebridgia aculeata*, new species (p. 558).
10. Fragments of the free bilamellar zoarium, natural size.
11. Zooecia, × 20, with interareolar costules well developed.
12. Another surface, × 20. The median position of the avicularium is evident.

Middle Jacksonian: 3½ miles south of Perry, Georgia.
Cat. No. 64188, U.S.N.M.

FIGS. 13–23. *Bracebridgia polymorpha costulata*, new variety (p. 559).
13. Fragments of the bilamellar zoarium, natural size.
14. An example, × 20, exhibiting gonoecia which are larger than the ordinary zooecia. The lamella is seen.
15. An aspect of the zooecia, × 20.
16. Interior of zooecia, × 20. The areolae are quite visible.
17. Another fragment, × 20, exhibiting transverse avicularia.
18. Aspect of zooecia, × 20, in which the characters are changed by fossilization.

Middle Jacksonian: One-half mile southeast of Georgia Kaolin Co.'s mine, Twiggs County, Georgia.
Cat. No. 64189, U.S.N.M.

19. Ordinary zooecia, × 20, with prominent avicularia deforming the aperture.
20. Zooecia, × 20, with transverse, curved avicularia.
21. Zooecia, × 20, showing the very salient avicularia.
22. A fragment exhibiting gonoecia, × 20. The avicularium is oblique and deforms the apertura.
23. Zooecia of a polymorphic fragment, × 20, with large oblique avicularium.

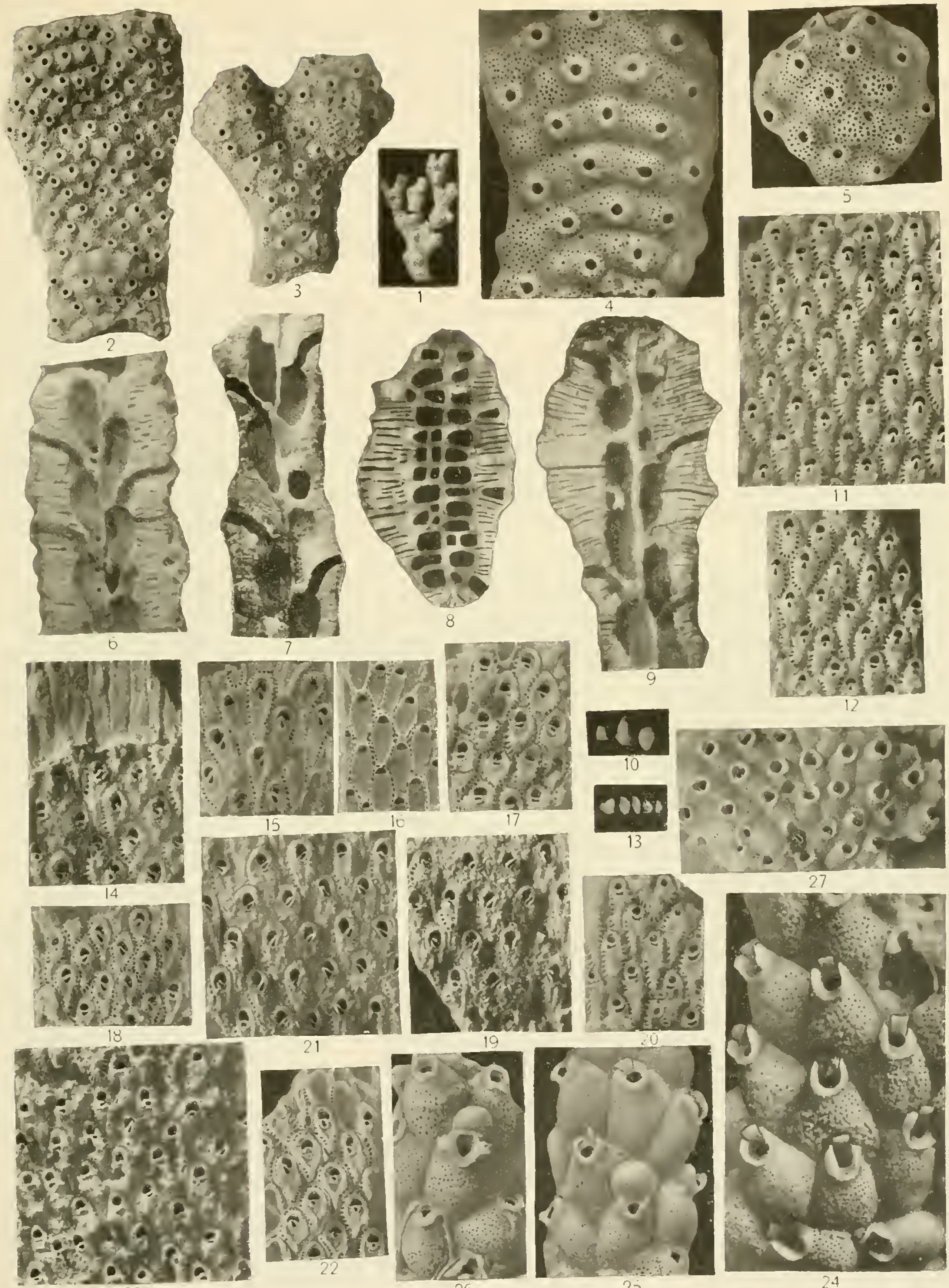
Middle Jacksonian: 18 miles west of Wrightsville, Georgia.
Cat. No. 64190, U.S.N.M.

FIGS. 24–26. *Phylactella infundibulum* Canu and Bassler, 1917 (p. 574).
24. Ordinary zooecia of the incrusting zoarium, × 20. The small pores and granules of the surface and the tubular peristome with its distal tongue are illustrated
25, 26. Two fragments, × 20, each bearing an ovicelled zooecium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62607, U.S.N.M.

FIG. 27. *Phylactella parvicella*, new species (p. 575).

The incrusting zoarium, × 20, illustrating the small size of the zooecia.
Middle Jacksonian: Baldock, Barnwell County, South Carolina.
Cat. No. 64191, U.S.N.M.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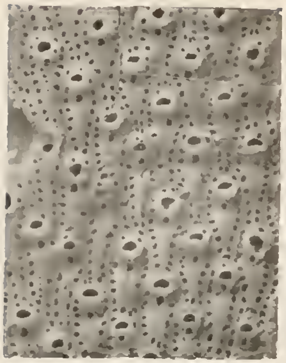
Jacksonian Cheilostomatous Bryozoa.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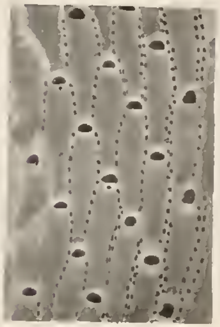
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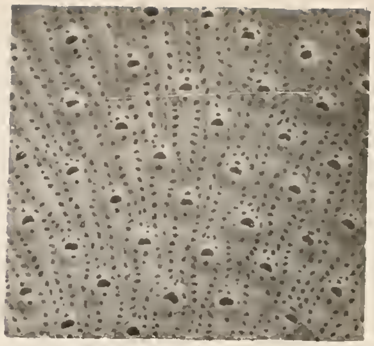
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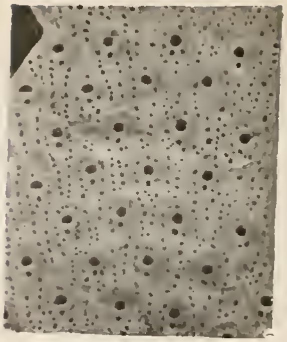
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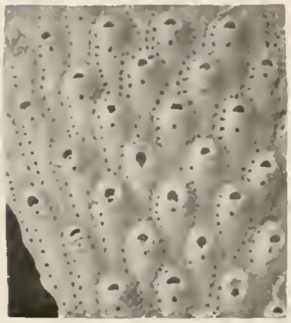
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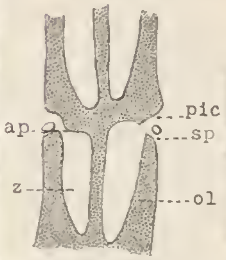
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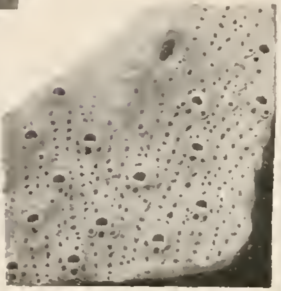
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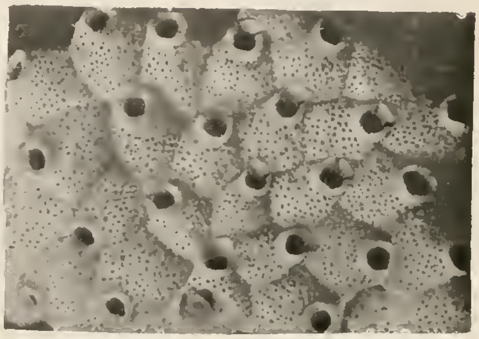
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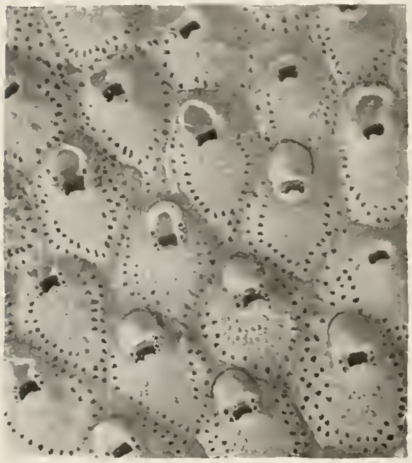
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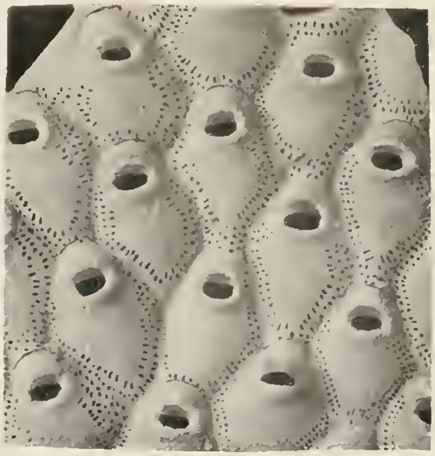
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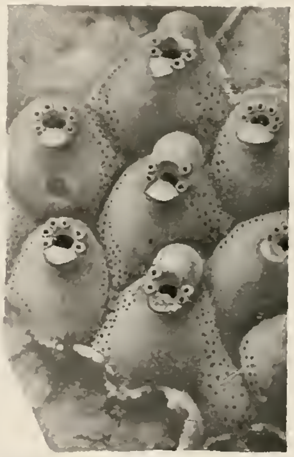
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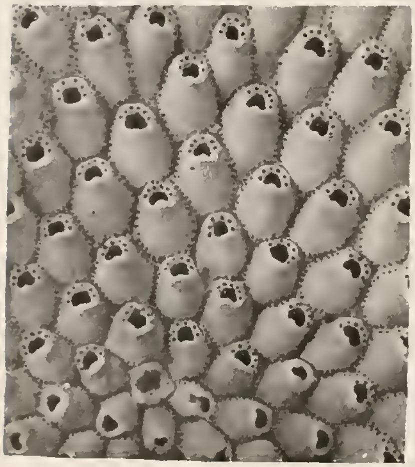
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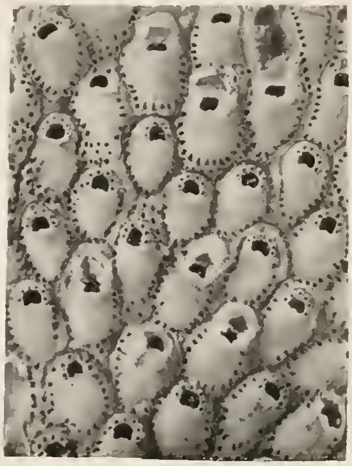
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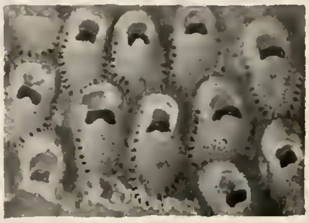
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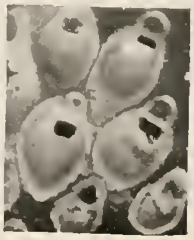
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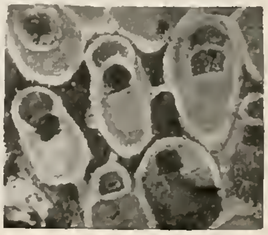
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 72.

FIGS. 1–8. *Adeonella folliculata* Canu and Bassler, 1917 (p. 562).

1. Fragments of the bilamellar zoarium, natural size.
2. Zoarial branch, × 20, illustrating the occurrence of a large interzooecial avicularium and numerous small round avicularia.
3. Axial zooecia, × 20. These are usually shorter than the marginal ones.
4. A frond, × 20, composed entirely of long zooecia.
5. A common aspect of the species, × 20. The surface is altered by fossilization.
6. Portion of a branch, × 20, with gonoecia. The zooecia with the ascopore close to the apertura are ordinary ones while the gonoecia have the ascopore further removed.
7. Interior of zooecia, × 20. The areolae, spiramen, and apertura are illustrated.
8. Longitudinal section, × 20, illustrating internal structure. *ap*, aperture; *ol*, olocyst; *pic*, peristomice; *sp*, spiramen; *z*, zooecium.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62608, U.S.N.M.

FIG. 9. *Phylactella parvicollum*, new species (p. 574).

The type-specimen of this incrusting species, × 20. The peristome is little salient and has a distal tongue.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64192, U.S.N.M.

FIG. 10. *Perigastrella hexagonalis*, new species (p. 577).

The incrusting zoarium, × 20, with both ordinary and ovicelled zooecia.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64193, U.S.N.M.

FIG. 11. *Perigastrella rhomboidalis*, new species (p. 577).

Surface of the bilamellar zoarium, × 20. The zooecia are rhomboidal in shape and the ovicell is small and transverse.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64194, U.S.N.M.

FIGS. 12–14. *Perigastrella cycloris* Gabb and Horn, 1862 (p. 577).

12. Ovicelled and ordinary zooecia of the incrusting zoarium, × 20. The salient mucro is well developed.
13. Schematic section of a zooecium published by Gabb and Horn.
14. View of the interior, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64195, U.S.N.M.

FIGS. 15–18. *Perigastrella oscitans*, new species (p. 578).

15. A well preserved example of this incrusting species, × 20, showing the ancestrula and neighboring zooecia.
16. The usual aspect of the surface, × 20.
17. A zoarium, × 20, with the zooecial frontal smooth.
18. Interior of zooecia, × 20.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64196, U.S.N.M.

PLATE 73.

FIG. 1. *Perigastrella elegans*, new species (p. 579).

The incrusting zoarium, × 20, illustrating the small zooecia and the numerous rows of areolae.

Middle Jacksonian: Baldock, Barnwell County, South Carolina.

Cat. No. 64197, U.S.N.M.

FIGS. 2–4. *Perigastrella ovoidea* Canu and Bassler, 1917 (p. 580).

2. Ancestrular portion of the incrusting zoarium, × 20. The zooecia are quite convex and the areolae are not visible.
3. Another zoarium, × 20, showing the ancestrula. A salient mucro is developed, hiding the apertura more or less.
4. Interior of zooecia, × 20.

Upper Jacksonian (Ocala limestone): 1½ miles above Bainbridge, Georgia.

Cat. No. 62613, U.S.N.M.

FIGS. 5–7. *Perigastrella maxilla*, new species (p. 580).

5. The incrusting zoarium, × 20. The mucro is erect.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.

Cat. No. 64198, U.S.N.M.

6. Zooecia, × 20, in which the areolar pores are visible.
7. Ovicelled and ordinary zooecia, × 20. The orifice of the ovicell is quite visible. The peristome bears eight spines.

Middle Jacksonian: 18 miles west of Wrightsville, Georgia.

Cat. No. 64199, U.S.N.M.

FIGS. 8, 9. *Perigastrella trapezoidea*, new species (p. 581).

8. Ancestrular portion of the incrusting zoarium, × 20. The zooecia are almost smooth; six to eight spines occur on the peristome.
9. Ovicelled and ordinary zooecia, × 20. The orifice of the ovicell is plainly marked.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.

Cat. No. 64200, U.S.N.M.

FIGS. 10–13. *Perigastrella depressa*, new species (p. 582).

10. Ovicelled zooecia of this incrusting species, × 20. The apertura is shown as a slit while the orifice of the ovicell is not visible.
11. Ovicelled and ordinary zooecia, × 20. Four spines occur on the latter and six on the former. No mucro is developed.
12. A zoarium, × 20, showing the ovicell attached to the distal zooecium.
13. Interior of zooecia, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64201, U.S.N.M.

FIGS. 14–19. *Perigastrella rectilineata*, new species (p. 582).

14. Interior of ovicelled zooecia, × 20.
15. Sketch of apertura, × 70.
16. Ordinary and ovicelled zooecia, × 20.
17. Portion of the incrusting zoarium, × 20, exhibiting the labial mucro quite clearly.
18. Tangential thin section of a zooecium, × 100. The olocystal elements are arranged in lines radiating from the mucro.

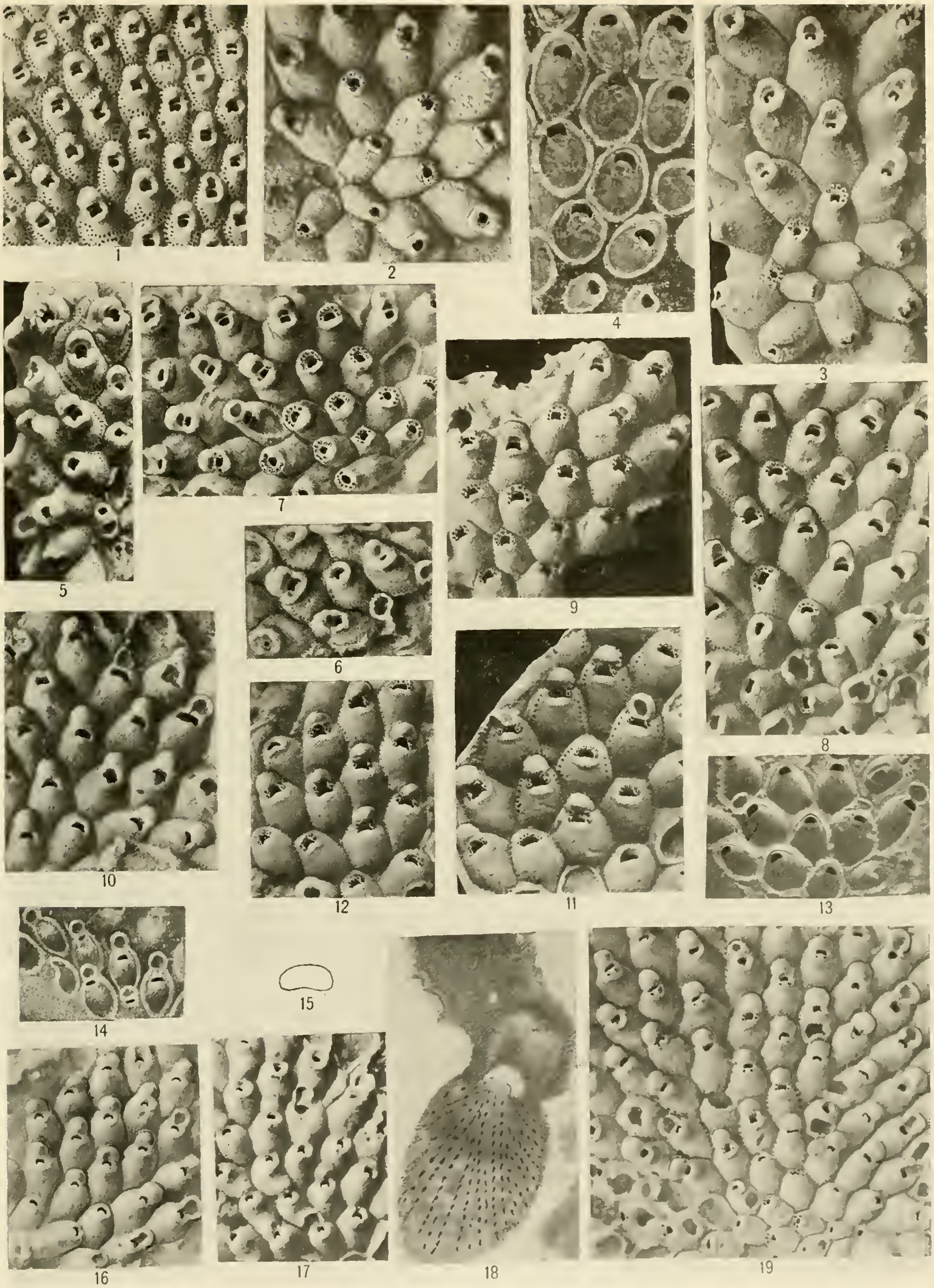
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Cat. No. 64202, U.S.N.M.

19. Area of ancestrula, × 20. The ancestrula is at the lower corner.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

Cat. No. 64203, U.S.N.M.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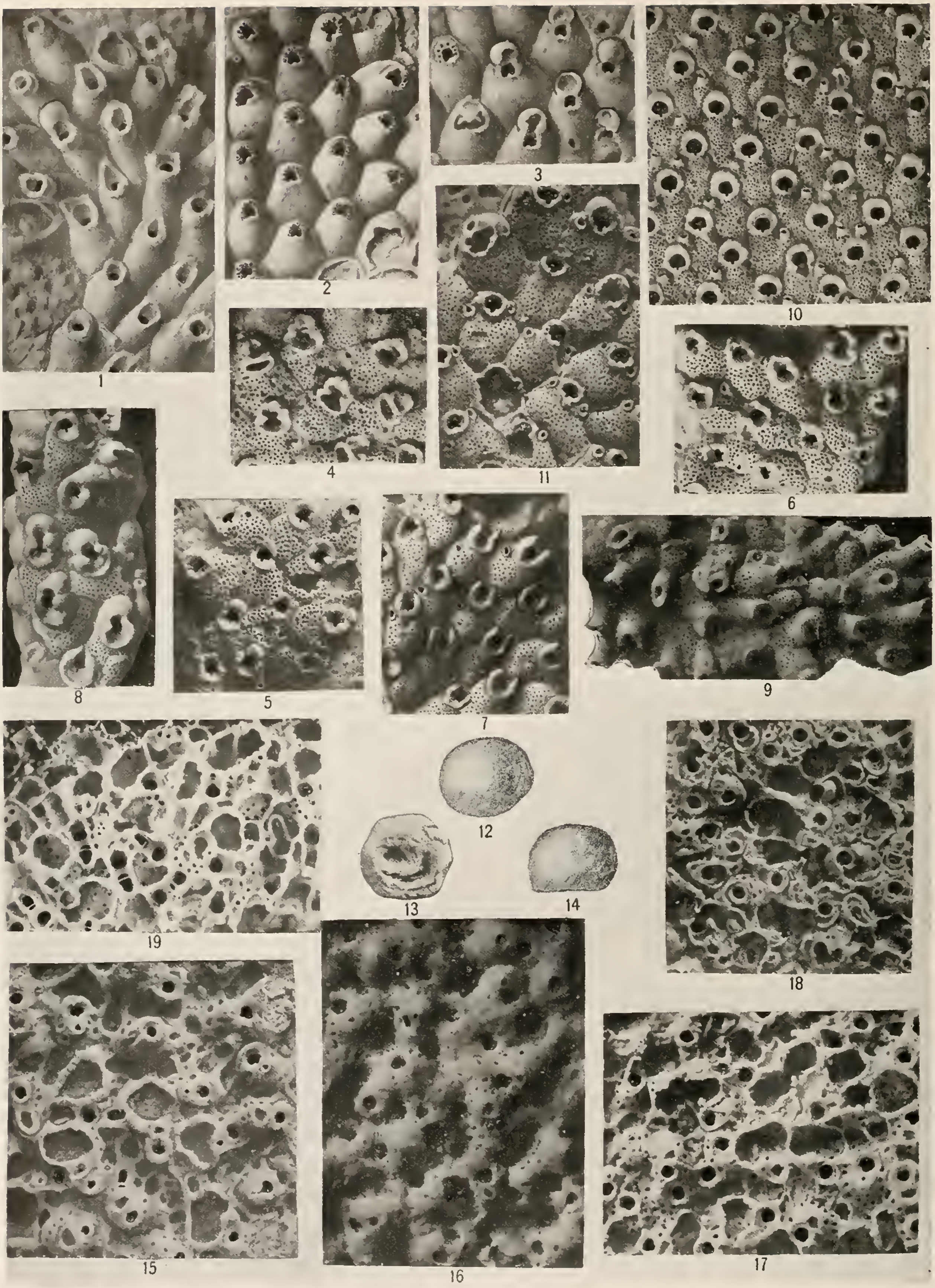
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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Jacksonian Cheilostomatous Bryozoa.

PLATE 74.

FIG. 1. *Perigastrella (?) tubulosa*, new species (p. 585).
Ordinary and ovicelled zooecia of this incrusting species. × 20.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.
Cat. No. 64201, U.S.N.M.

FIGS. 2, 3. *Hemicyclopora parajuncta* Canu and Bassler, 1917 (p. 586).
2. The incrusting zoarium showing ordinary zooecia, × 20. The frontal is smooth and somewhat convex.
3. Ovicelled zooecia, × 20. The ovicell is quite globular and salient.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 62610, U.S.N.M.

FIGS. 4–6. *Schizobathysella semilunata*, new species (p. 590).
4. Ordinary zooecia of the incrusting zoarium, × 20. The large transverse spiramen is complete on two zooecia.
5. Another specimen, × 20, with three ovicelled zooecia. A small round avicularium is developed.
6. Another portion of the same specimen, × 20, illustrating the linear rimule.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64205, U.S.N.M.

FIGS. 7, 8. *Schizobathysella saccifera* Canu and Bassler, 1917 (p. 590).
7. Ordinary zooecia of this incrusting species, × 20, showing the development of the peristome.
8. Ovicelled zooecia, × 20.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 62611, U.S.N.M.

FIG. 9. *Lagenipora americana*, new species (p. 591).
The incrusting zoarium, × 20, with the characteristic long lageniform zooecia.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64206, U.S.N.M.

FIG. 10. *Mastigophora hyndmanni* Johnston, 1847 (p. 587).
An American Eocene example of this species. × 20.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64207, U.S.N.M.

FIG. 11. *Mastigophora dutertrei* Savigny-Audouin, 1826 (p. 588).
Ordinary and ovicelled zooecia, × 20. The rounded rimule is well shown.
Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 64208, U.S.N.M.

FIGS. 12–19. *Osthimosia glomerata* Gabb and Horn, 1862 (p. 602).
12–14. Top, side, and basal views of zoaria, natural size.
15. Surface of a zoarium, × 20, exhibiting incomplete zooecia and several large interzooecial avicularia. The normal zooecia show the rimule well developed.
16. Another surface, × 20, showing oblique superficial zooecia.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64209, U.S.N.M.
17. Another aspect of the species, × 20. The superficial zooecia are erect and the areolae are well shown. Several incomplete zooecia are present.
18. Zooecial surface, × 20, with several ovicelled zooecia.
19. Erect superficial zooecia, incomplete zooecia, and large interzooecial avicularia, × 20.
Vicksburgian (Byram marl): Vicksburg, Mississippi.
Cat. No. 64210, U.S.N.M.

PLATE 75.

FIGS. 1–3. *Schismopora umbonata*, new species (p. 600).

1. The fragmentary type-specimen of this discoidal species, natural size.
2. The central zooecia, × 20. The erect superficial zooecia, with smooth frontal and strong umbo are shown.
3. Another view of the same zoarium, × 20, showing oriented marginal zooecia at the bottom. The upper part of the figure shows the usual superficial zooecia and several incomplete zooecia.

Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 64211, U.S.N.M.

FIGS. 4–6. *Schismopora orbicularis*, new species (p. 600).

4. The unilamellar zoarium, natural size.
5. Celluliferous side of the type. × 20. The superficial zooecia are oriented.
6. Basal side of the same, × 20.

Middle Jacksonian: One-half mile southeast of Georgia Kaolin Co.'s mine, Twiggs County, Georgia.
Cat. No. 64212, U.S.N.M.

FIGS. 7–15. *Schismopora globosa*, new species (p. 598).

7–10. Top and side views of the globose zoarium, natural size.
11. Superficial zooecia, × 20. The frontal avicularium is represented by a large cicatrix. The apertura has a broad, triangular rimule.
12. Another aspect of the surface, × 20. Several incomplete zooecia are present.
13. Transverse thin section, × 10.
14. A portion of the same section, × 100. The olocystal nature of the walls is illustrated.
15. Another part of this section, × 100.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64213, U.S.N.M.

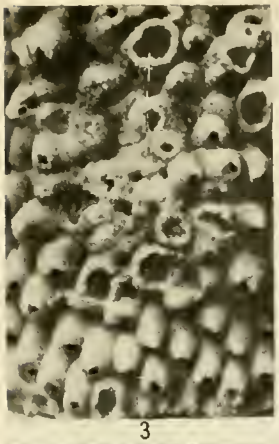
FIGS. 16–20. *Holoporella altirostris*, new species (p. 606).

16. Two small masses of the incrusting zoarium, natural size.
17. Surface, × 20, showing erect superficial zooecia with large oral avicularium. Several ovicelled zooecia are present.
18. Edge of a zoarium, × 20. A prominent tongue hides the zooecial apertures.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina
Cat. No. 64214, U.S.N.M.

19. An aspect of the species, × 20, in which the apertura is very deep. Several incomplete zooecia are developed.
20. Ovicelled zooecia, × 20. The ovicells and the large frontal avicularia are frequently broken.

Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 64215, U.S.N.M.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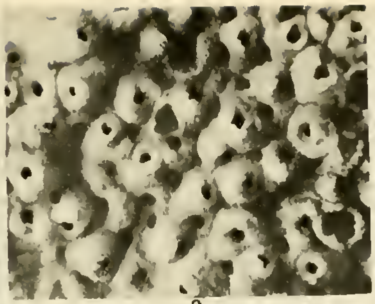
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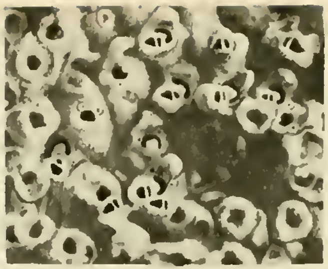
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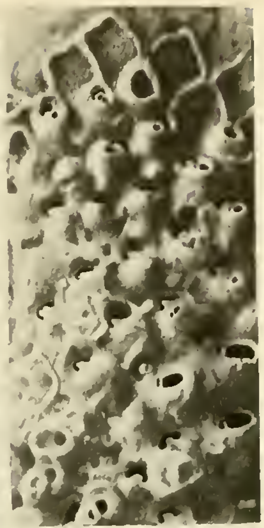
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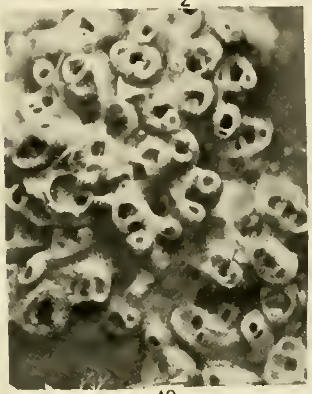
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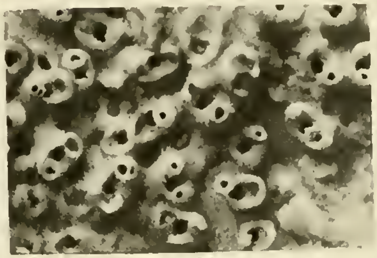
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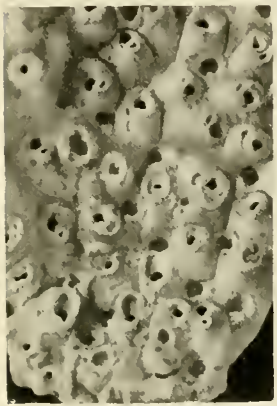
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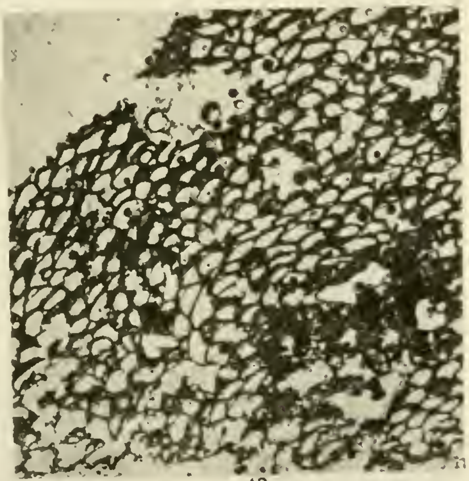
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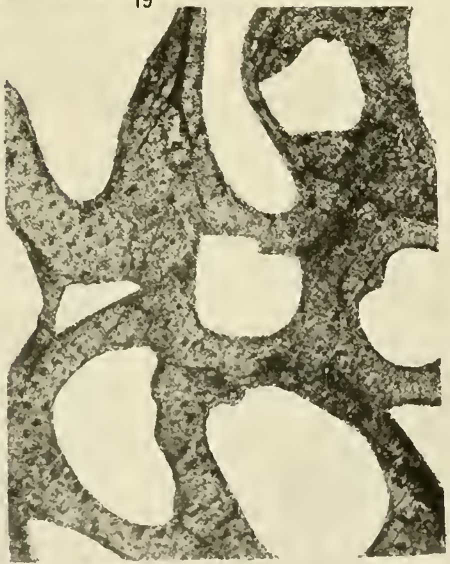
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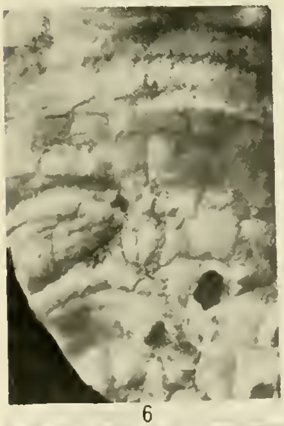
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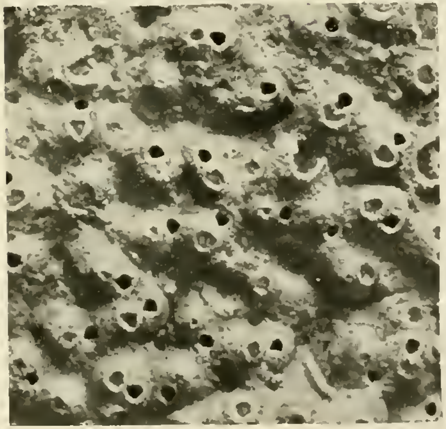
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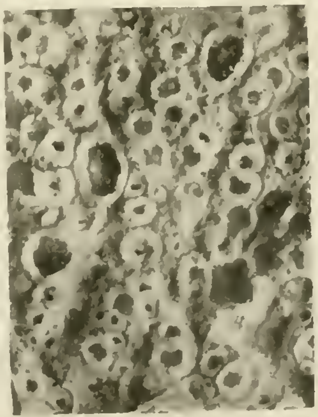
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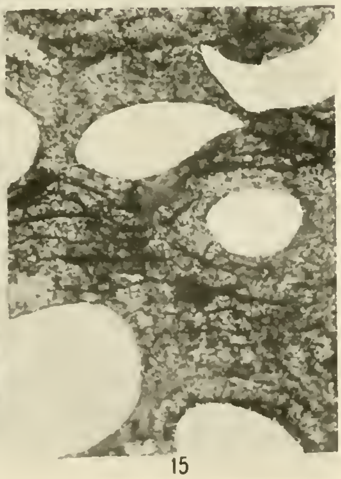
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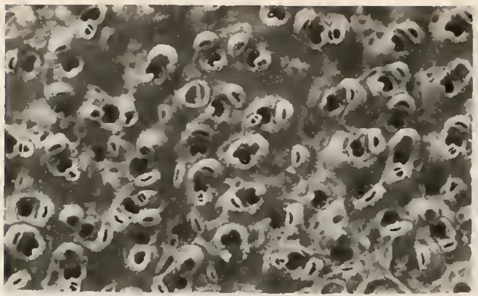
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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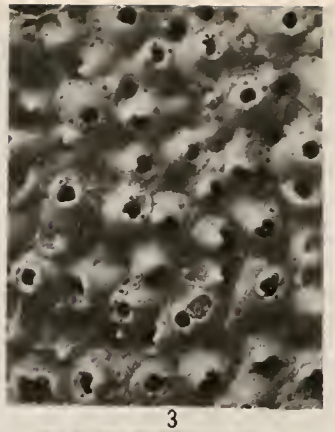
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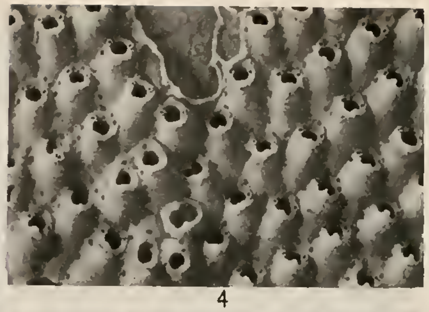
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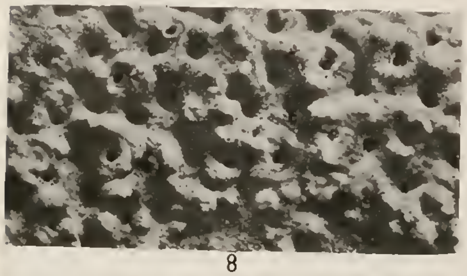
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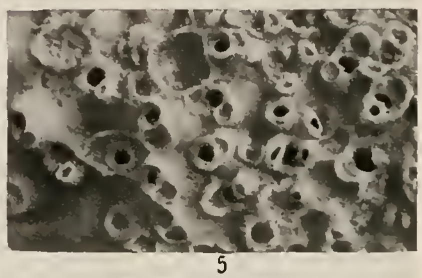
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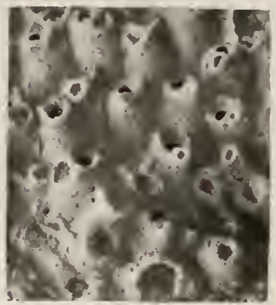
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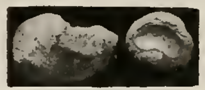
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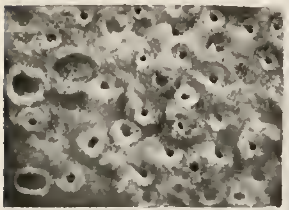
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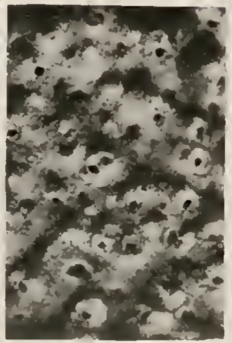
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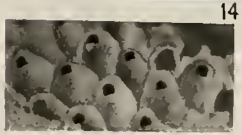
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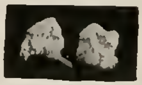
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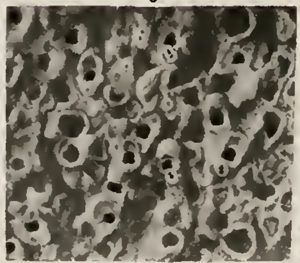
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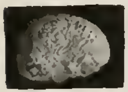
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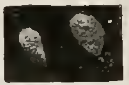
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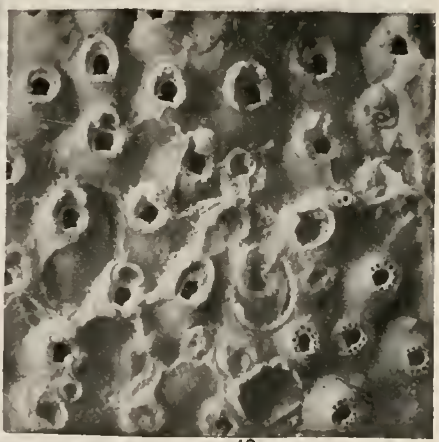
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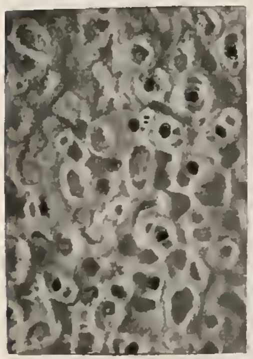
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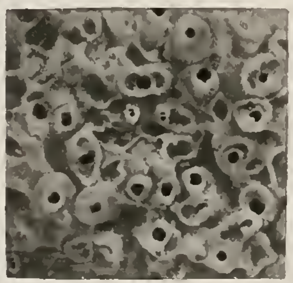
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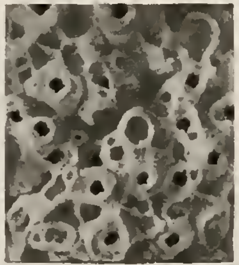
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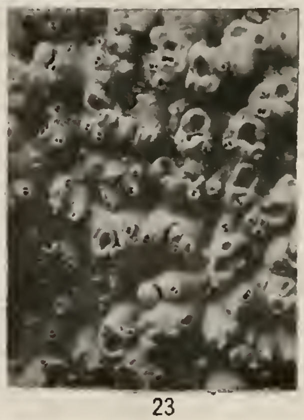
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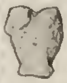
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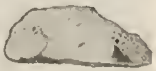
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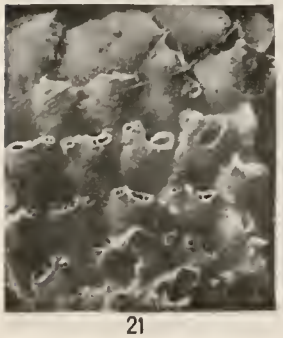
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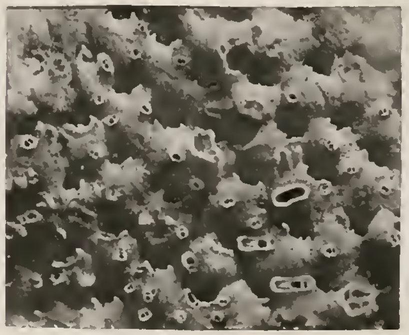
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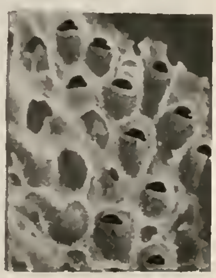
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

Plate 76.

Figs. 1–6. *Holoporella fissurata*, new species (p. 605).

1. Two examples of the small globular zoarium, natural size.

2. Ovicelled zooecia, of a zoarium incrusting a shell, × 20, with the fissure in the ovicell quite visible.

3. Another view of the same zoarium, × 20.

4. Marginal zooecia of the same zoarium, × 20. The zooecia are oriented and the areolae are visible.

5. Another portion of the zoarium, × 20. The ovicells are broken. Several incomplete zooecia are shown.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64216, U.S.N.M.

6. The Vicksburgian form of the species. × 20.

Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
Cat. No. 64217, U.S.N.M.

Figs. 7–10. *Holoporella micropora*, new species (p. 610).

7. The free, globular zooecium, natural size.

8. Usual aspect of the zooecia, × 20, with the salient beak quite visible.

9. Surface of zoarium, × 20, with several incomplete zooecia.

10. Zooecia, × 20, illustrating the minute apertura, the smooth frontal, and the salient beak.

Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.
Cat. No. 64218, U.S.N.M.

Figs. 11, 12. *Holoporella crassicollis*, new species (p. 607).

11. The unilamellar incrusting zoarium, natural size.

12. Surface of the same specimen, × 20. The thick salient peristome is quite evident.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64219, U.S.N.M.

Figs. 13–19. *Holoporella separata*, new species (p. 609).

13, 14. Four examples of the small, massive zoarium, natural size.

15. Ovicelled zooecia, × 20.

16. Superficial zooecia, × 20. They are widely separated and the form of the apertura is shown.

17. Superficial zooecia, × 20, with a cicatrix before each apertura.

18. Another aspect of the surface, × 20.

19. Interior of zooecia, × 20.

Middle Jacksonian: One-half mile southeast of Georgia Kaolin Co.'s mine, Twiggs County, Georgia.
Cat. No. 64220, U.S.N.M.

Figs. 20–24. *Holoporella birostrata*, new species (p. 612).

20. The incrusting zoarium, natural size.

21. Submarginal zooecia, × 20. They are oblique and oriented.

22. Zooecia, × 20, with interzooecial avicularia.

23. Ovicelled and ordinary zooecia, × 20.

24. Interior of zooecia, × 20, showing form of apertura and the internal canal.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64221, U.S.N.M.

PLATE 77.

FIGS. 1–7. *Holoporella damicornis*, new species (p. 609).

1–3. Three views of zoaria, natural size, showing the horn-like protuberance.

4. Usual aspect of the zooecial surface, × 20.

5. Zooecia, × 20, with the umbo undeveloped. Several interzooecial avicularia are present.

6. Zooecia, × 20, with broken umbo.

7. Transverse thin section, × 20, showing the cumulation of the zooecia.

Jacksonian (Zeuglodon zone); Cocoa Post Office, Choctaw County, Alabama.
Cat. No. 64222, U.S.N.M.

FIGS. 8–11. *Holoporella pisiformis*, new species (p. 608).

8. Three of the small, globular zoaria, natural size.

9. Zooecia, × 20, some of which have two apophyses, separated by a rimule.

10. Zooecia, × 20, with the apophyses sometimes joined, forming a spiramen.

11. Zooecia with a salient mucro, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64223, U.S.N.M.

FIGS. 12–21. *Kleidionella cristata*, new species (p. 620).*

12. A zoarium, natural size, restored from fragments.

13. View of young zooecia, × 20.

14. A young branch, × 20, formed of oriented zooecia.

15. Oriented and cumulate zooecia, × 20.

16. View of the cumulate zooecia, on the median crest, × 20.

17. Cumulate zooecia at the base of a zoarium, × 20. Several interzooecial avicularia are present.

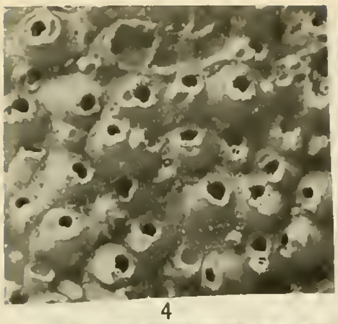
18. Edge of frond, × 20, with interzooecial avicularia.

19. Portion of a branch with the median crest, × 20, showing several ovicelled zooecia.

20. Tangential thin section, × 20.

21. A portion of the same, × 100, showing olocystal nature of the frontal.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 64224, U.S.N.M.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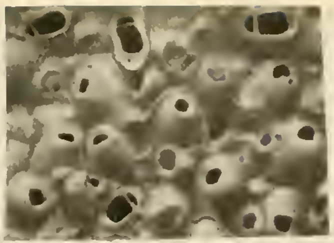
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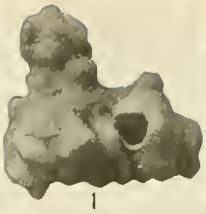
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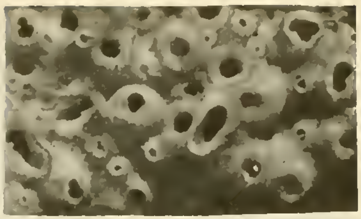
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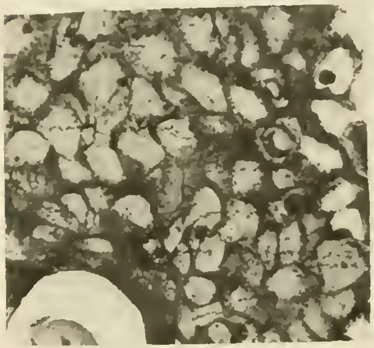
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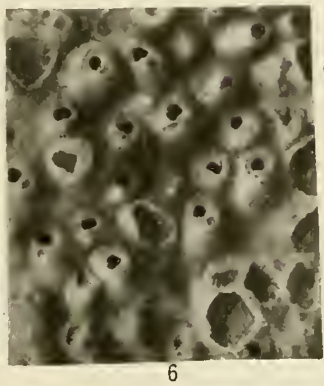
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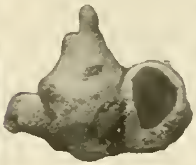
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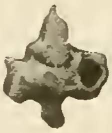
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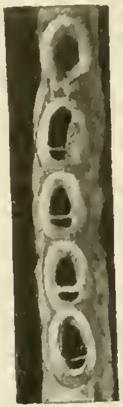
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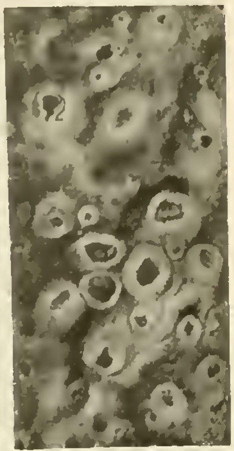
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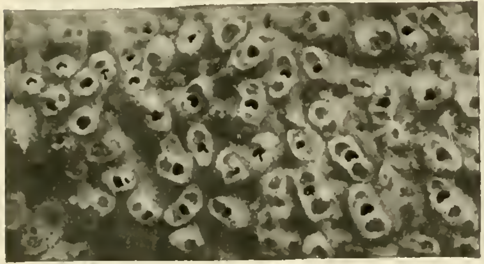
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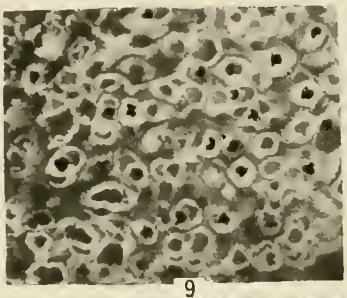
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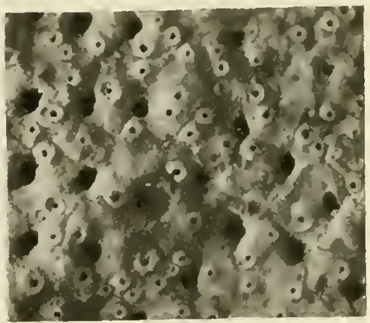
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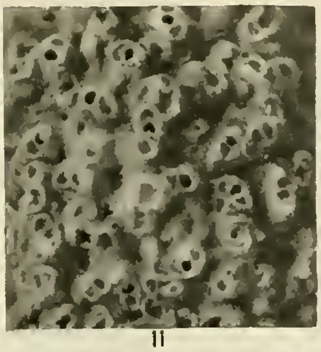
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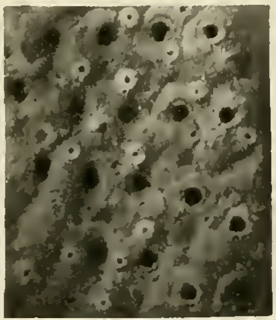
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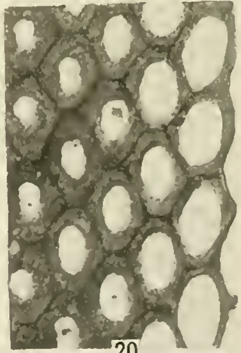
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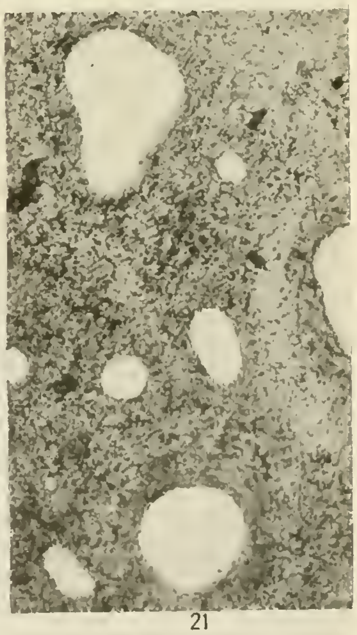
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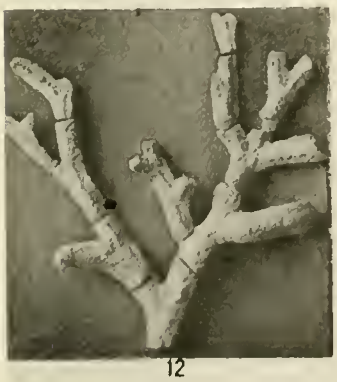
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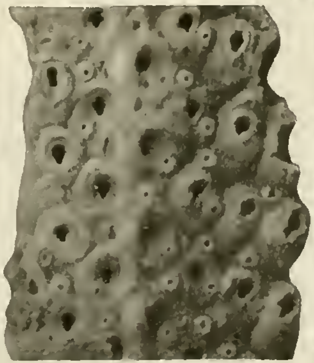
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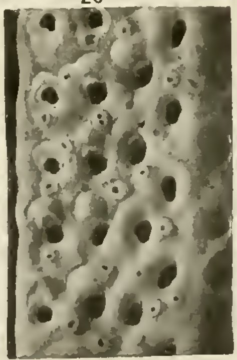
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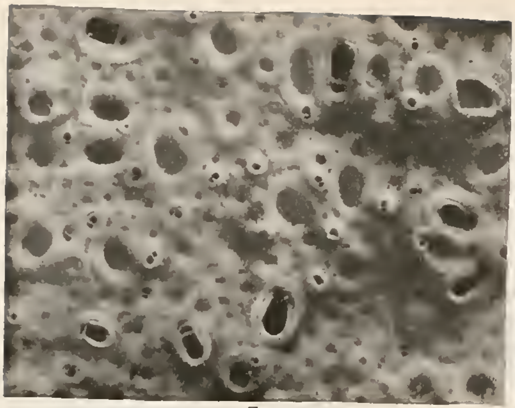
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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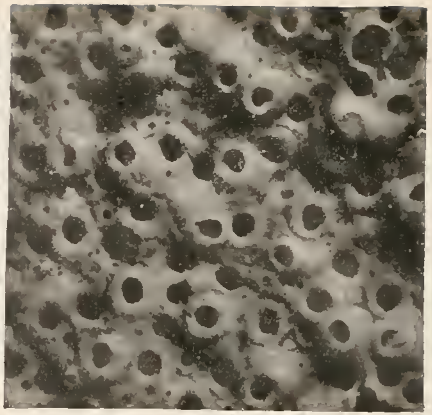
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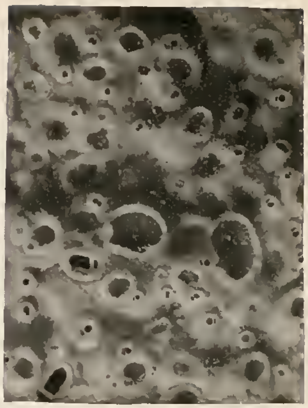
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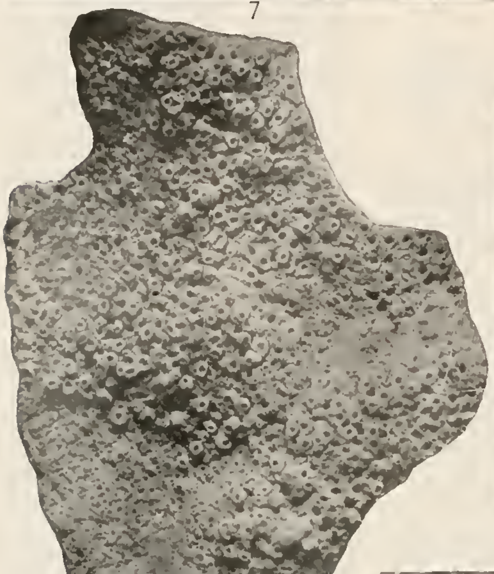
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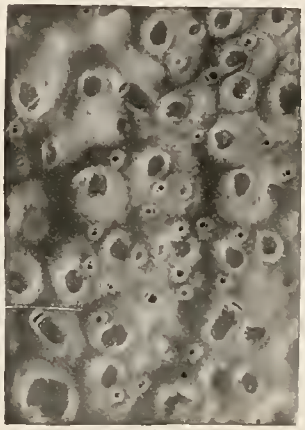
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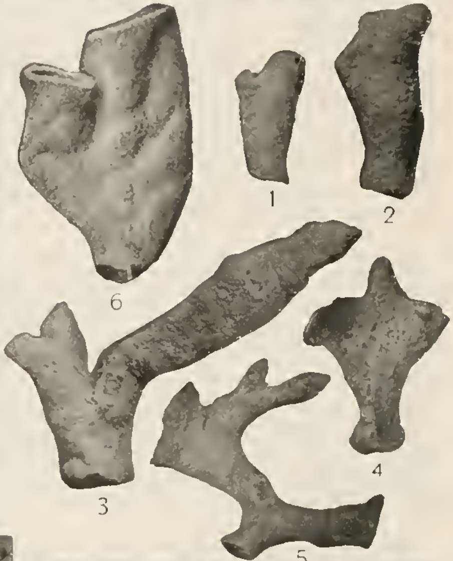
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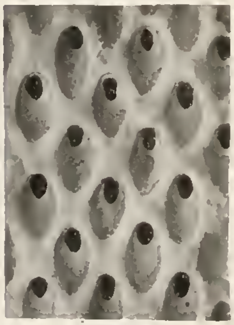
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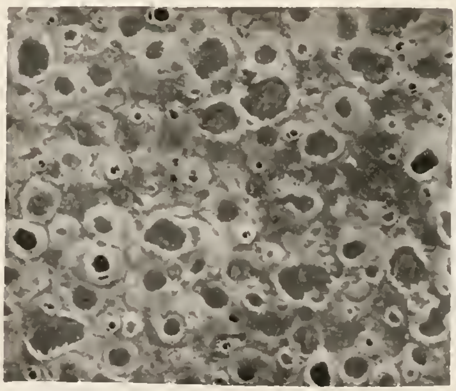
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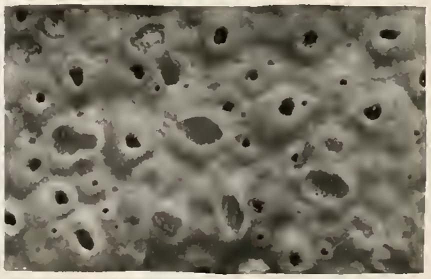
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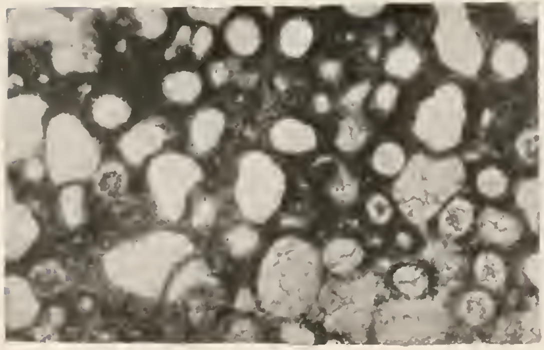
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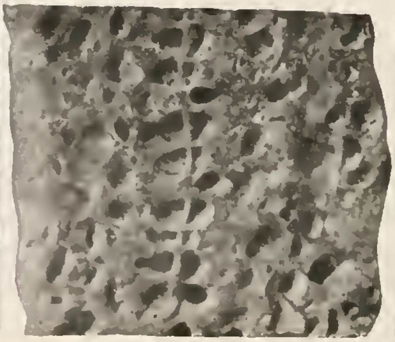
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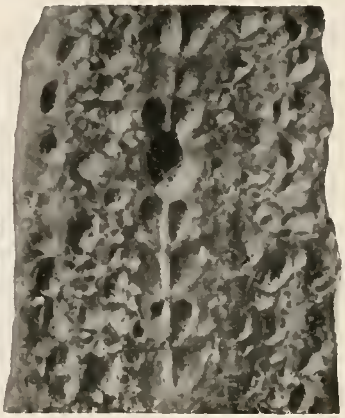
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JACKSONIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 78.

FIGS. 1–17. *Kleidionella grandis*, Canu and Bassler, 1917 (p. 617). (See also plate 79, fig. 1.)

1–6. Various forms of the large bifurcated fronds, natural size.

7. Surface of zoarium, × 20, in which many of the large interzooecial avicularia and the small frontal avicularia have undergone regeneration.

8. Portion of zoarium, × 20, illustrating both deep and superficial zooecia.

9. An example, × 20, with several incomplete zooecia, and illustrating a group of large zooecia.

10. Another portion of the same specimen shown in figure 9, × 20, but exhibiting a group of small zooecia.

Jacksonian (Zeuglodon zone): Cocoa Post Office, Choctaw County, Alabama.
Cat. No. 62613, U.S.N.M.

11. A zoarium, × 10, showing groups of large and of small zooecia.

Middle Jacksonian: Three and one-half miles south of Perry, Georgia.
Cat. No. 64225, U.S.N.M.

12, 13. Views of the zoarial surface, × 20, showing two aspects of the zooecia and avicularia.

14. Longitudinal section, × 20, exhibiting the two inner rows of oriented zooecia and the many rows of cumulate zooecia.

15. Transverse section of a frond, × 20. The oriented zooecia are seen on each side of the middle line, followed by numerous rows of cumulate zooecia.

16. A deep tangential thin section, × 20.

17. Interior of oriented zooecia, × 20. The oval form of the apertura is visible.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64226, U.S.N.M.

PLATE 79.

FIG. 1. *Kleidionella grandis* Canu and Bassler, 1917 (p. 617). (See also plate 78.)
Tangential thin section, × 20, through zooecia near the surface.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 64226, U.S.N.M.

FIGS. 2–14. *Kleidionella lobata*, new species (p. 619).

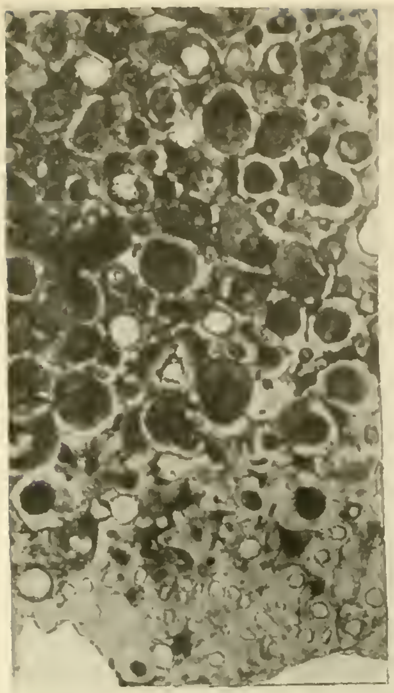
2. Views, natural size, of the lobed, bifoliate, bifurcated zoarium.
3. A larger much branched example, natural size.
4. Young zooecia at the extremity of a frond, × 20. The formation of the ovicell may be noted.
5. Portion of a frond, × 20, with a few scattered cumulate zooecia.
6. Zooecia, × 20, with numerous small elliptical avicularia, some with pivot.
7. A frond, × 20, with several interzooecial avicularia and numerous small avicularia with pivot.
8. Zooecia, × 20, with numerous broken ovicells.
9. Portion of an example, × 20, with an isolated group of cumulate zooecia.
10. Part of a frond, × 10 Cumulate zooecia are developed at the base, and the usual oriented zooecia, with numerous small avicularia, above.
11. The basal part of the specimen shown in figure 10, × 20.
12. Tangential thin section, × 20, showing the dense olocystal structure of the zooecia.
13. Longitudinal section, × 20.
14. View of the interior of zoecia, × 20.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64227, U.S.N.M.

FIGS. 15–18. *Stichoporina protecta* Koschinski, 1885 (p. 625).

15. Surface of the cupuliform zoarium, × 20, with normal and ovicelled zooecia.
16. Basal surface of a fragment, × 20.
17. Lower side of zoarium, × 10.
18. Sketch of a longitudinal section, × 20.

ap. aperture; *pie.* peristomice; *z.* zoarium.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 64228, U.S.N.M.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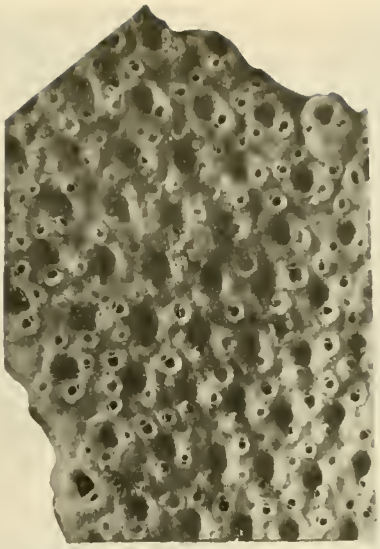
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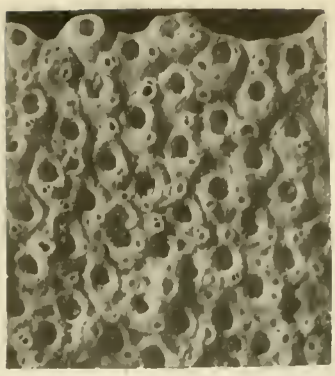
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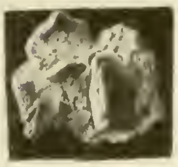
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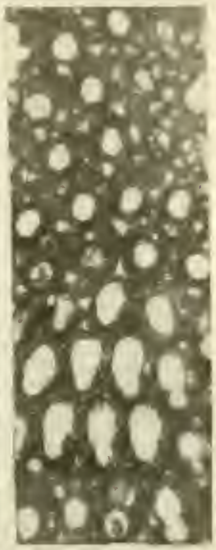
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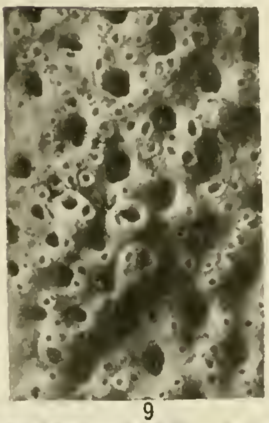
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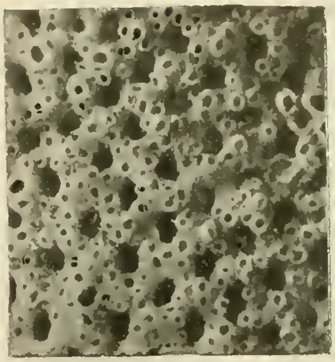
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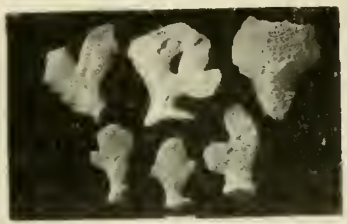
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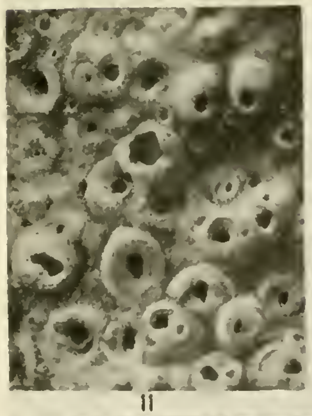
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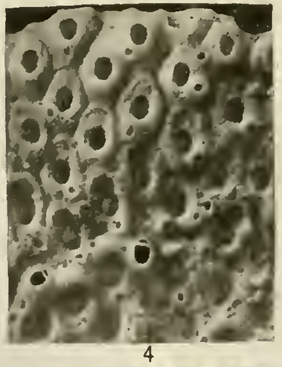
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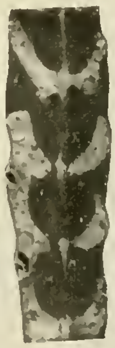
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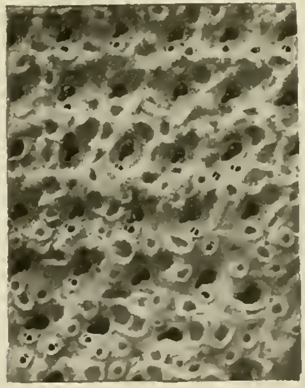
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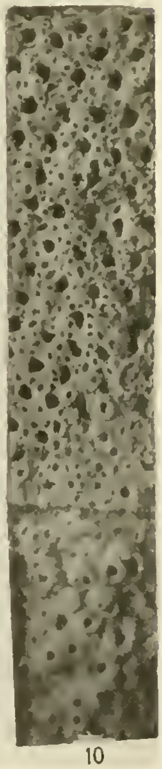
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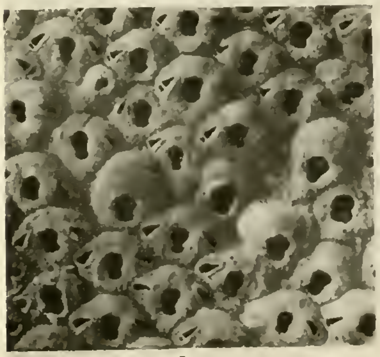
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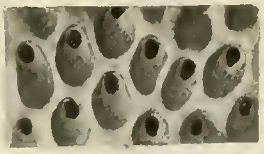
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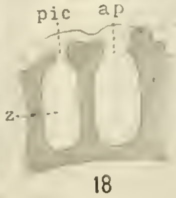

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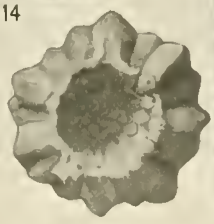
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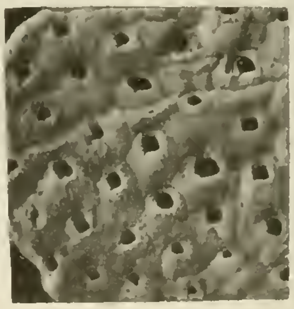
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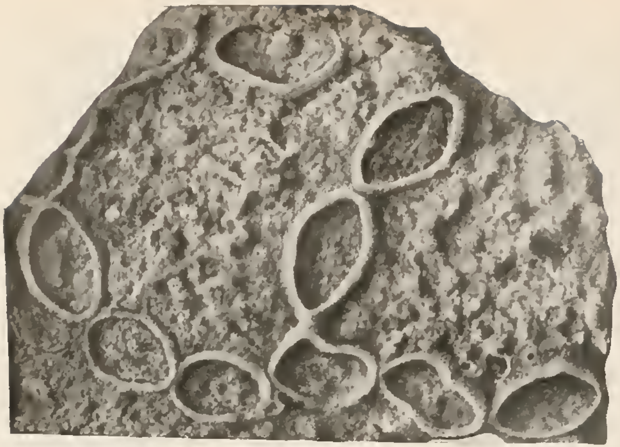
JACKSONIAN CHEILOSTOMATOUS BRYOZOA.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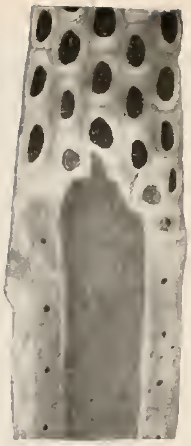
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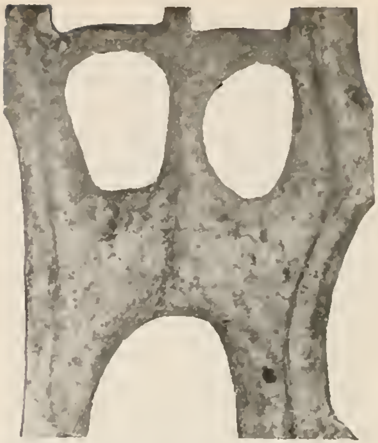
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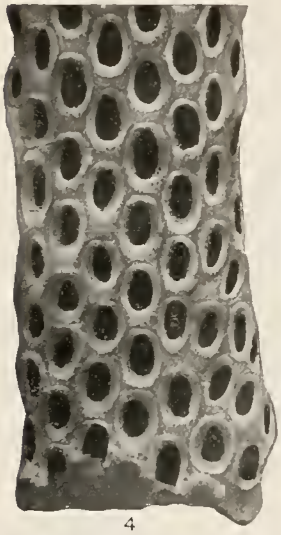
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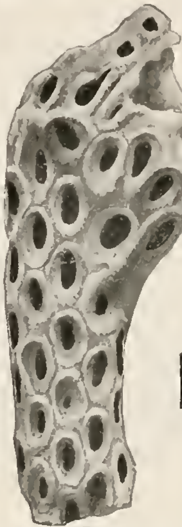
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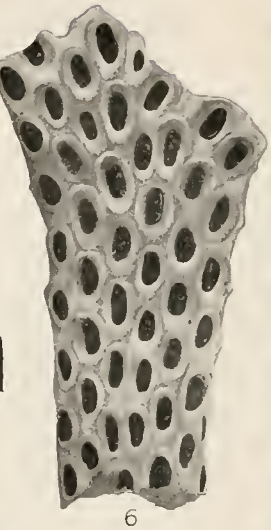
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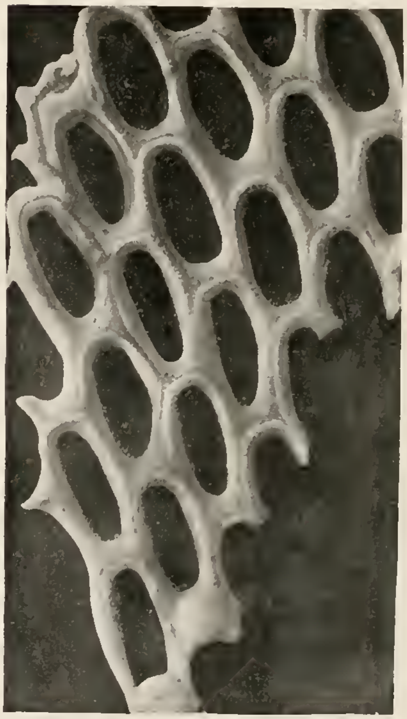
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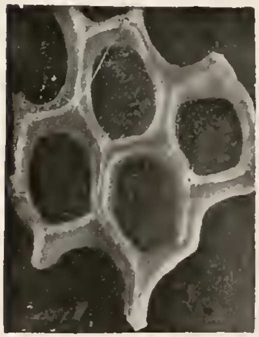
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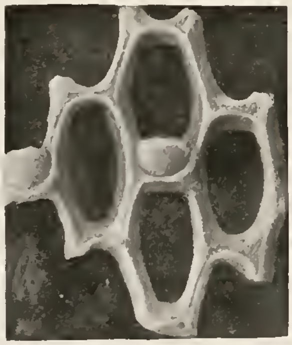
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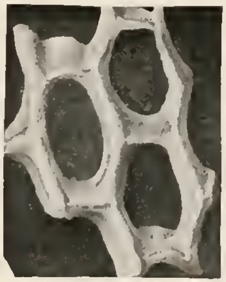
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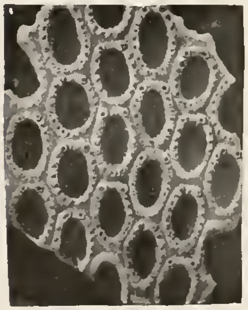
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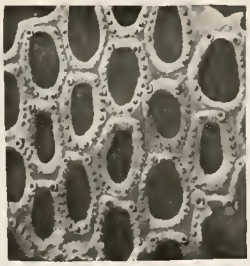
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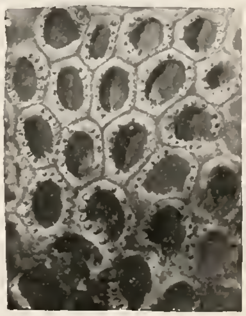
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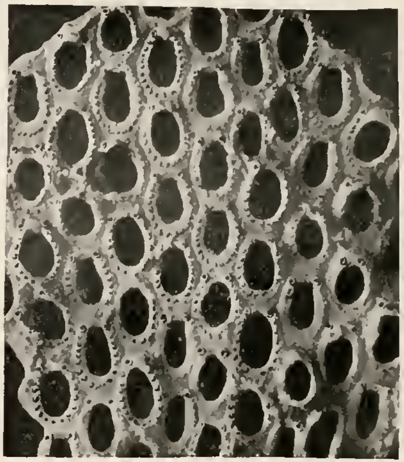
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 80.

FIG. 1. *Herpetopora danica* Lang, 1914 (p. 81).

A zoarium, × 20, branching unilaterally. The zooecia show the absence of the basal olocyst and their caudal portion very little developed if at all.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64229, U.S.N.M.

FIGS. 2–7. *Membraniporina tubulosa*, new species (p. 98).

2. Two of the small tubular zoaria, natural size.
3. Fragment of a broken zoarium, × 20, exhibiting the hollow interior and the septulae of the lateral walls.
4. Portion of a normally growing zoarium, × 20, with the usual characters of the zooecia.
5. Zoarium of abnormal growth, × 20, with distorted zooecia at the upper end and a calcified zooecium in the lower part.
6. A bifurcated zoarium, × 20.
7. Tangential thin section, × 100, illustrating microscopic structure of the frontal wall.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64230, U.S.N.M.

FIGS. 8–11. *Membraniporina arcana*, new species (p. 99).

8. A fragment, × 20, preserving only four broad zooecia.

9, 10. Two small fragments of zoaria, × 20, with zooecia of the more usual type and with several ovicell-like structures in their proximal portion.

11. A more complete fragment, × 20, with elongated zooecia and two of the supposed ovicells.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64231, U.S.N.M.

FIGS. 12–15. *Hincksina elegans*, new species (p. 115).

12, 13. Two well preserved fragments, × 20, with the characteristic specific characters, but without ovicells.

14. A worn zoarium, × 20, but having the spines still visible.

15. Surface of a zoarium, × 20, with some zooecia preserving ovicells.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64232, U.S.N.M.

PLATE 81.

FIG. 1. *Membrendoecium lowei,* new species (p. 121)
The type-specimen of the species, × 20 with small zooecia and avicularia or interopesial cavities.
Vicksburgian (Byram marl): Vicksburg, Mississippi.
Cat. No. 64233, U.S.N.M.

FIGS. 2, 3. *Callopora vicina,* new species (p. 155).
2. Zoarium, × 20, with the usual form and arrangement of the zooecia and avicularia.
3. Another zoarium, × 20, with five regenerated zooecia having double rims.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64234, U.S.N.M.

FIG. 4. *Amphiblestrum curvatum,* new species (p. 162).
Portion of the type, × 20, with both ovicelled and nonovicelled zooecia and well marked curved avicularia.
Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.
Cat. No. 64235, U.S.N.M.

FIG. 5. *Stamenocella intermedia,* new species (p. 173).
View of the Bugula-like zoarium, × 20, with large ovicell and conspicuous avicularia.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64236, U.S.N.M.

FIGS. 6–8. *Scrupocellaria cookei,* new species (p. 186).
6. Frontal face of a segment, × 25. The small rounded distal avicularia and the presence of a lamella in some of the opesia are to be noted.
7, 8. Two views of the dorsal side, × 25, showing the straight, pointed vibraculum and the associated radicular pore.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64237, U.S.N.M.

FIGS. 9–16. *Scrupocellaria milneri,* new species (p. 186).
9. Frontal view of a segment, × 25, exhibiting the large, distinct, elliptical zooecia and the very large frontal avicularium.
10. Dorsal side of a fragmentary segment, × 25, with slightly convex zooecia.
11. Dorsal side of a segment, × 25, showing the two distinct component layers.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64238, U.S.N.M.
12. Dorsal, × 25, of specimen with large distinct vibracula and conspicuous radicular pore situated on a small elevation.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64239, U.S.N.M.
13. Another dorsal view, × 25.
Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Conecuh County, Alabama.
Cat. No. 64240, U.S.N.M.
14. Frontal surface of a branching segment, × 25, with several ovicelled zooecia (*ov*).
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64238, U.S.N.M.
15. Branching fragment, × 25, with unusually large opesia.
16. Frontal surface, × 25, showing a calcified zooecium (*zr*), ovicell (*ov*), and opesial lamella on some zooecia.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64239, U.S.N.M.

FIGS. 17–19. *Scrupocellaria triangulata,* new species (p. 188).
17. Frontal view, × 25, of an almost entire segment. The mural rim bears traces of the scutum.
18. Lateral view of the same segment, × 25.
19. Dorsal side of the same, × 25. The large oblique vibraculum and the prominent radicular pore are characteristic features.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64241, U.S.N.M.

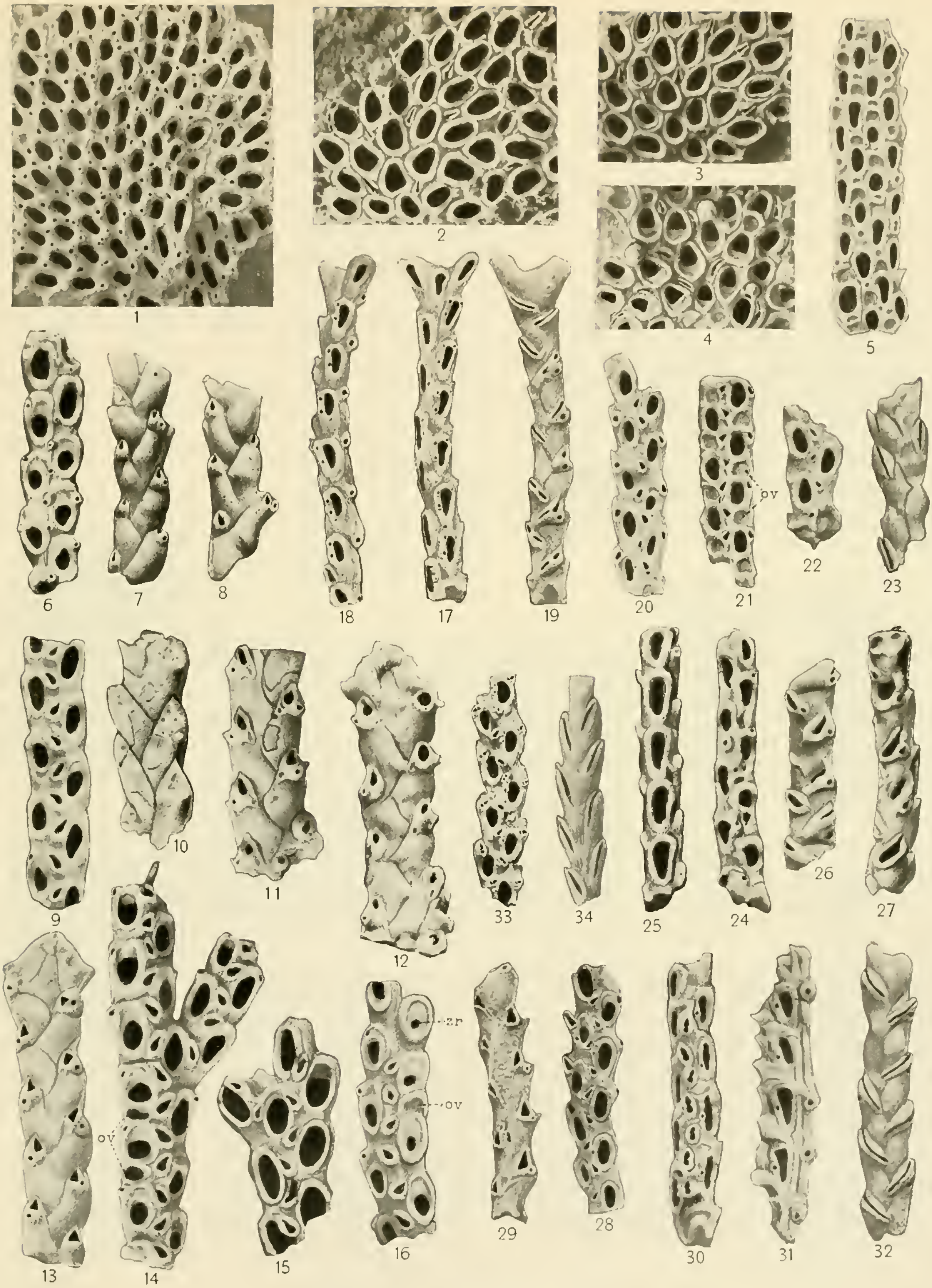
FIGS. 20–23. *Scrupocellaria resseri,* new species (p. 187).
20. Frontal surface of a segment, × 25.
21. Fragmentary segment, × 25, having all zooecia provided with ovicells (*ov*).
22. Small fragment, × 25, with larger opesia than usual.
Alabama.
23. Dorsal side, × 25, exhibiting the distinct rectilinear groove of the vibraculum.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64242, U.S.N.M.

FIGS. 24–27. *Scrupocellaria williardi,* new species (p. 188).
24. Frontal view, × 25, showing zooecia with indistinct outlines.
25. Lateral view of the frontal side, × 25, illustrating pyriform shape of the opesia.
26. Dorsal side of a small fragment, × 25. The indistinct zooecia and the large vibracula are especially noteworthy.
27. Lateral view of the dorsal side, × 25.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64243, U.S.N.M.

FIGS. 28, 29. *Scrupocellaria vaughani,* new species (p. 189).
28. Segment, × 25, showing several of the large triangular distal avicularia.
29. Dorsal side of the same, × 25, with the large triangular vibracula (avicularia).
Vicksburgian (Red Bluff formation): Seven and one-half miles southwest of Bladon Springs, Alabama.
Cat. No. 64244, U.S.N.M.

FIGS. 30–32. *Scrupocellaria rathbuni,* new species (p. 189).
30. Frontal view, × 25, of a segment. The frontal avicularia with lateral denticles are most conspicuous, the zooecia being seen only in perspective.
31. Lateral view, × 25, showing the real form of the opesium and the projection of the frontal avicularium.
32. Dorsal side of the same specimen, × 25, with the long groove of the vibraculum most conspicuous.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64245, U.S.N.M.

FIGS. 33, 34. *Caberea boryi* Audouin, 1826 (p. 191).
33. Frontal view, × 25, of a fragment of this nonarticulated species.
34. Dorsal side, × 25, of the same example.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64246, U.S.N.M.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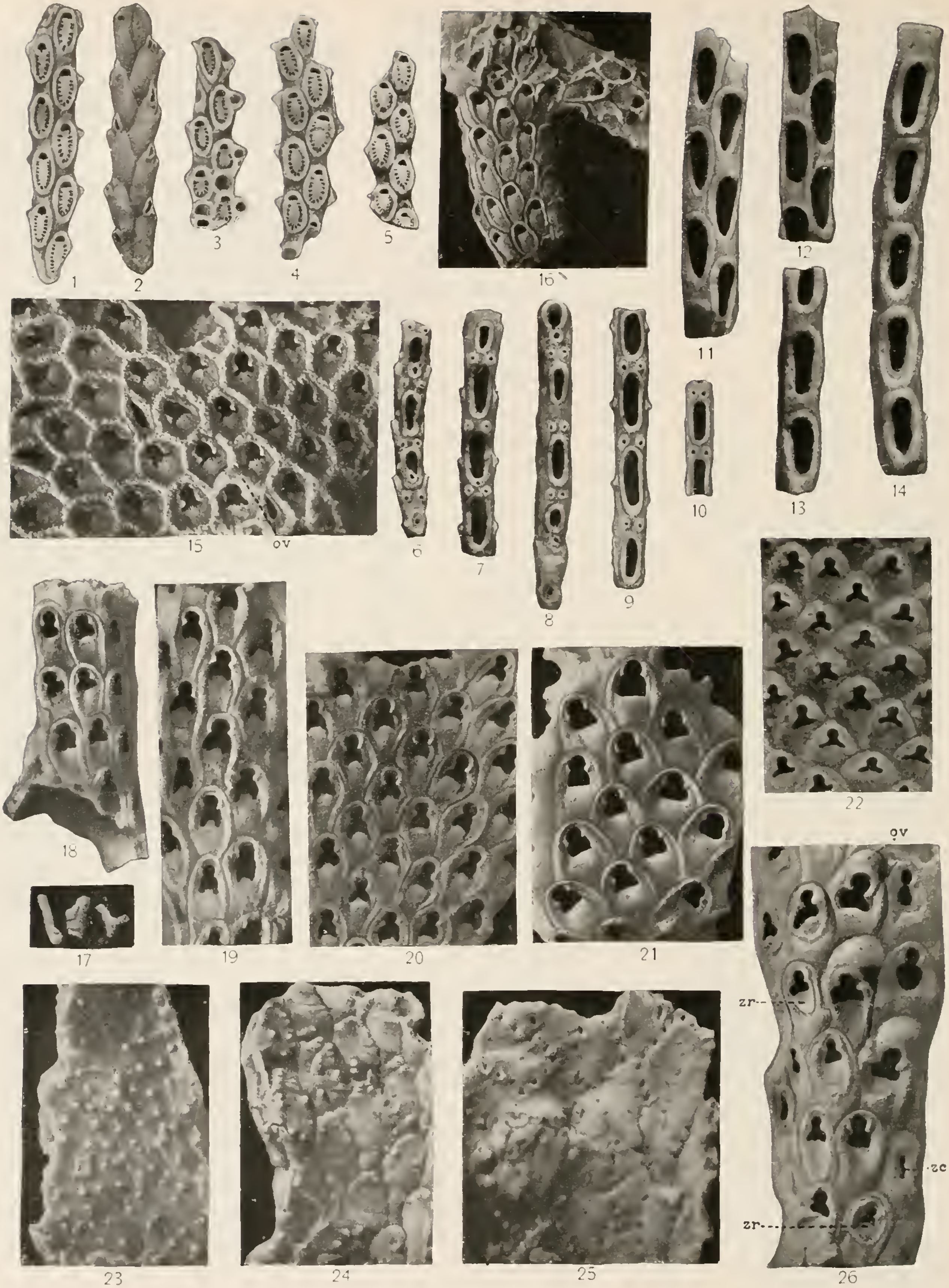
Vicksburgian Cheilostomatous Bryozoa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Vicksburgian Cheilostomatous Bryozoa.

Plate 82.

Figs. 1–5. *Scrupocellaria clausa*, new species (p. 190).
1. Frontal side of a segment, × 25, with the opesia covered by a membrane with lateral ribs.
2. Dorsal side of the same, × 25. In this view the zooecia are distinct and convex and the vibraculum straight and acuminate.
Vicksburgian (Glendon member of Marianna limestone) West bank of Conecuh River. Escambia County, Alabama.
Cat. No. 64247. U.S.N.M.
3. Portion of a segment, × 25, with several ovicelled zooecia.
4, 5. Frontal side of two other segments, × 25.
Vicksburgian (Marianna limestone): Salt Mountain. 5 miles south of Jackson, Alabama.
Cat. No. 64248, U.S.N.M.

Figs. 6–10. *Nellia oculata* Busk, 1852 (p. 196).
6. Segment, × 25. with radicular pores below the opesia.
7. Upper portion of a segment. × 25, illustrating the normal aspect of the zooecia.
8. Example, × 25, in which the lowermost zooecium bears only a radicular pore.
9. Segment, with elongate zooecia, × 25.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64249, U.S.N.M.
10. Small fragment. × 25.
Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 64250, U.S.N.M.

Figs. 11–14. *Heterocella vicksburgica*. new species (p. 198).
11, 12. Two fragments, × 25. showing the two rows of smaller converging zooecia.
13, 14. Two other portions of segments, × 25. illustrating the larger divergent zooecia.
Vicksburgian (Marianna limestone): Salt Mountain. 5 miles south of Jackson, Alabama.
Cat. No. 64251, U.S.N.M.

Fig. 15. *Diplopholeos lineatum*, new species (p. 219).
Surface of the incrusting zoarium, × 20, with occasional linear opesiular indentations in the zooecia and one zooecium with ovicell (*ov*).
Vicksburgian (Marianna limestone): Near Claiborne, Monroe County. Alabama.
Cat. No. 64252, U.S.N.M.

Fig. 16. *Rosseliana parvipora*, new species (p. 228).
The type-specimen, × 20. incrusting another bryozoan. Several zooecia are provided with endozooecial ovicells.
Vicksburgian ("Chimney rock" member of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 64253, U.S.N.M.

Figs. 17–26. *Floridinella vicksburgica* Canu and Bassler. 1917 (p. 220).
17. Three zoaria, natural size.
18. A small zoarium, × 25, showing its unilamellar, hollow, cylindrical form.
19. Surface of an example, × 25, with narrow, elongate zooecia.
20. Surface of a zoarium, × 25, in which the lateral grooves are well developed.
21. A specimen with wide zooecia, × 25.
22. A zoarium, × 25. with broad zooecia having a small opesium and linear opesiules.
23. Non celluliferous face of zoarium, × 25, with hydrostatic tuberosities and with zooecial outlines not visible.
24. View of the same face in another specimen. × 25, with the zooecia plainly visible.
25. Another view, × 25, with the zooecia marked out by depressions.
26. Portion of a zoarium, × 25. with ovicelled zooecia (*ov*), calcified zooecia (*zc*), and zooecia showing total regeneration (*zr*).
Vicksburgian (Marianna limestone): One mile north of Monroeville, and west bank Conecuh River. Escambia County. Alabama.
Cat. No. 64254, U.S.N.M.

PLATE 83

FIGS. 1–11. *Lunularia vicksburgensis* Conrad, 1847 (p. 249).

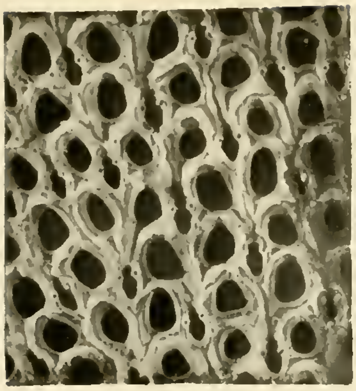
1. Surface of a zoarium, × 20, illustrating normal shape and arrangement of the zooecia and vibracula.
2. Portion of another zoarium, × 20, showing the granular deposit of the ectocyst.
3. Another example, × 20, with well marked fossettes on the condyles of the vibracula.
4. An entire zoarium, × 20, showing the ancestrula at the center perforated by a pore. This zooecium is hydrostatic.
5. Inner side of a zoarium, × 20, illustrating irregular arrangement of the segments.
6. Celluliferous side of a fragment, × 20, showing margin.
7. Edge view of a fractured zoarium, × 20. One pair of lateral septulae to each zooecium and minute closely arranged interzooecial canals may be noted. Two segments growing in juxtaposition.
8. Inner side of zoarium, × 20, exhibiting a regular arrangement of the segments.
9. Inner face of a fragmentary zoarium, × 20, showing that the larva has attached itself to a large object.
10. Transverse fracture, × 20, showing a large distal septula to each zooecium. The segments in their growth fit into each other.
11. Zoaria, natural size.

Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 64255, U.S.N.M.

FIGS. 12–16. *Lunularia tintinabula*, new species (p. 251).

12. Fragments of zoaria, natural size.
13. Celluliferous side of a fragmentary zoarium, × 20, with the usual characters of the normal and hydrostatic zooecia.
14. Small fragment, × 20, in which the fragile exterior surface has been removed from the lower zooecia. The vibracula of the lower layer have no condyles, and the zooecial opesia of this layer are larger than those of the outer one
15. A fragment, × 20, exhibiting the various aspects of the hydrostatic zooecia.
16. Inner face of a zoarium, × 20, showing quite convex radial rows, with large scattered pores.

Vicksburgian (Red Bluff member): Red Bluff, Wayne County, Mississippi.
Cat. No. 64256, U.S.N.M.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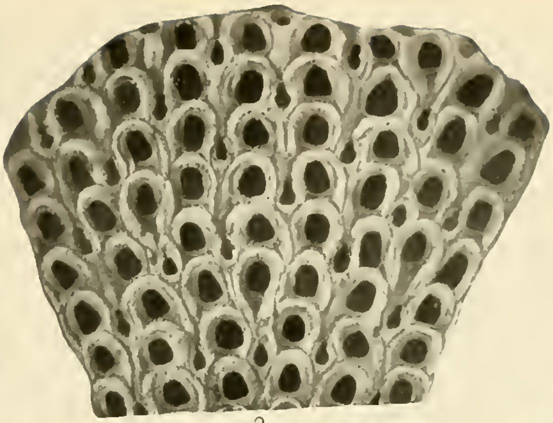
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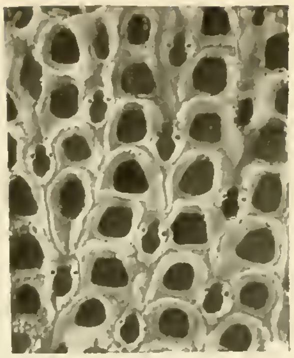
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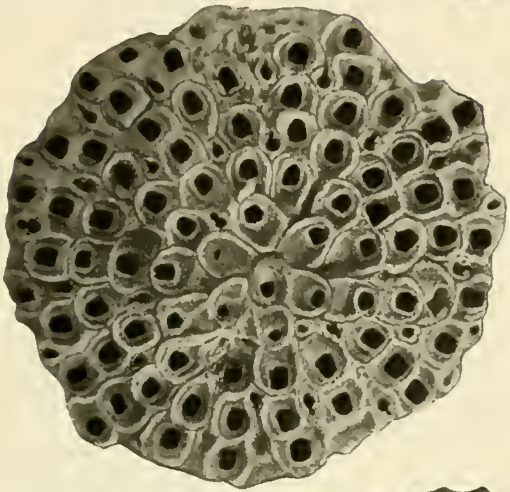
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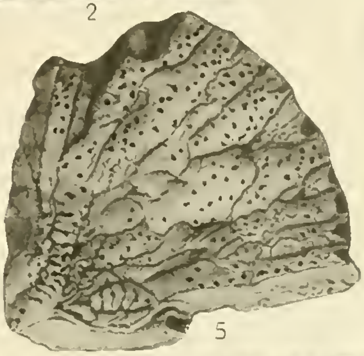
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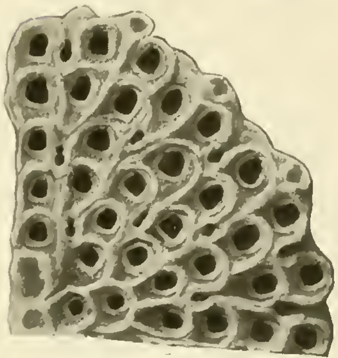
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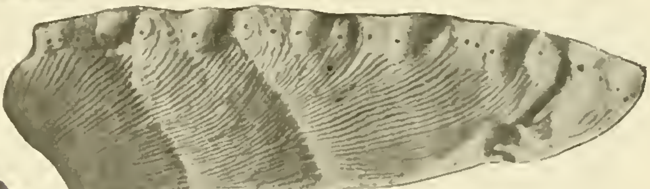
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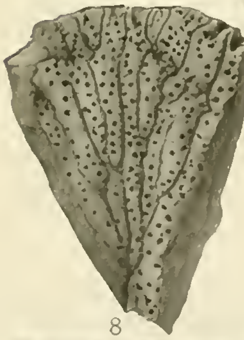
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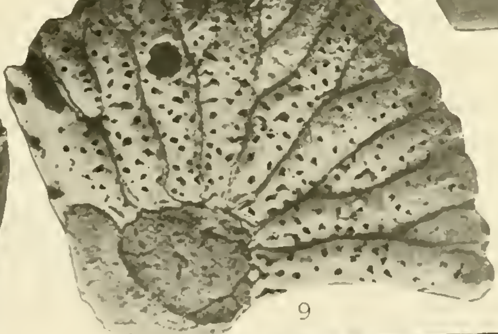
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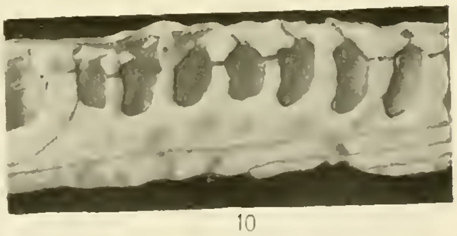
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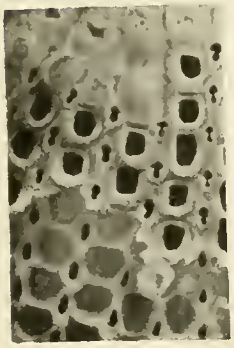
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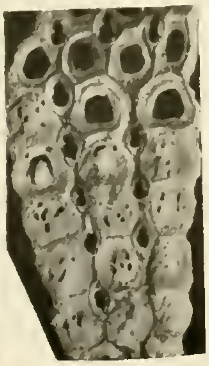
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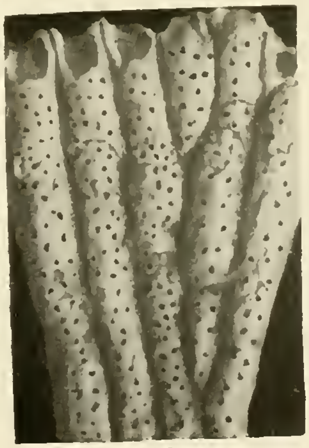
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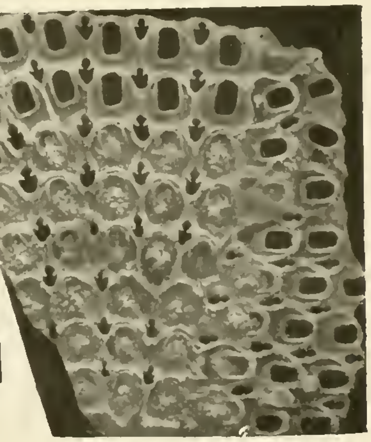
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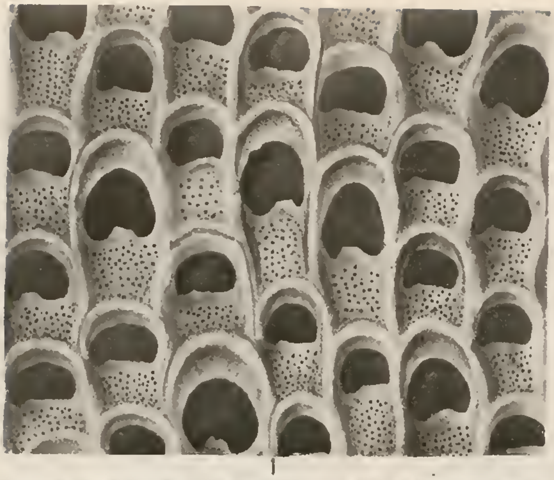
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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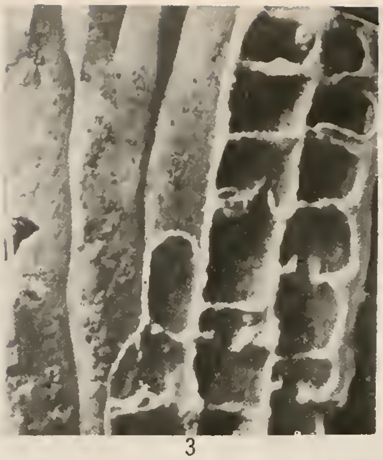
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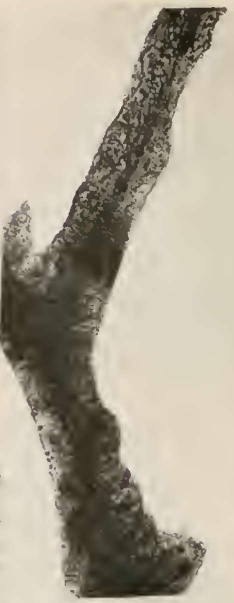
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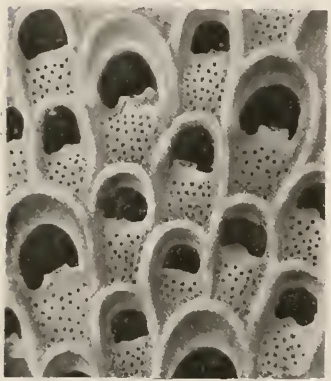
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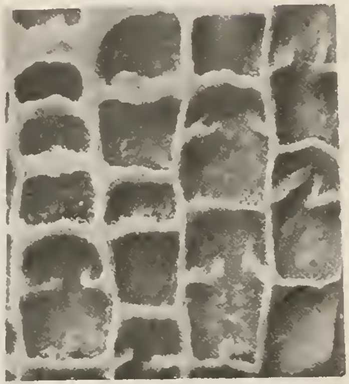
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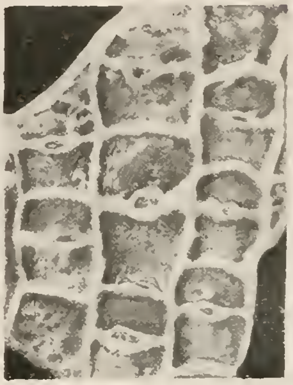
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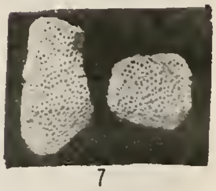
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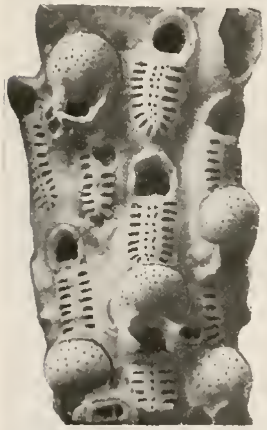
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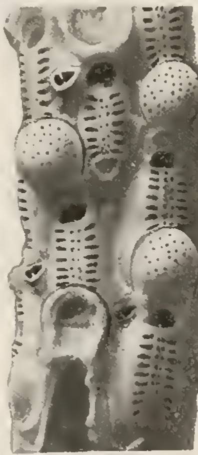
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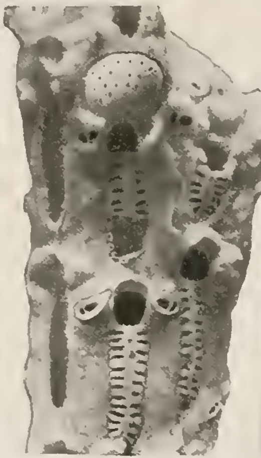
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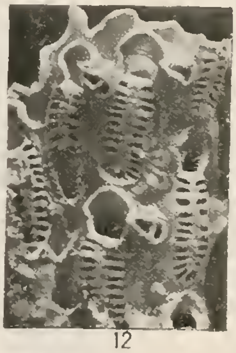
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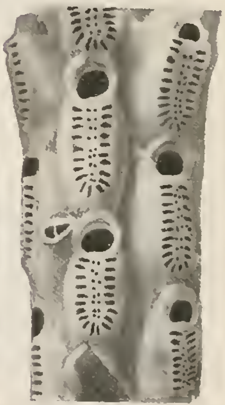
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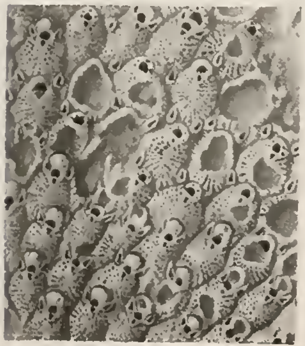
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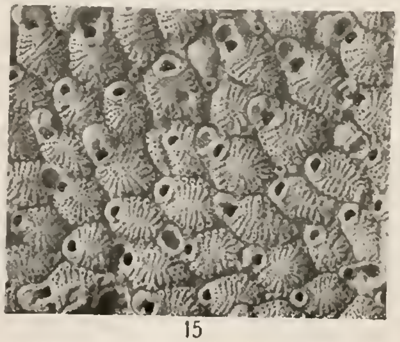
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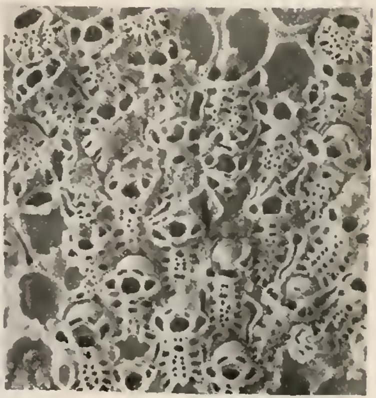
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 84.

FIGS. 1–7. *Steganoporella vicksburgica*, new species (p. 264).

1. Surface of the bifoliate zoarium, × 20, illustrating characters of the smaller *a* zooecia with improminent polypidian tube and opesiules and of the larger *B* zooecia in which polypidian tube is quite prominent.
2. Another view of the surface, × 20.

3, 4. Two fragments, × 20 ,with the zoarial surface rubbed away to show the remains of the polypide tube at different levels.

5. Preparation, × 20, obtained by gentle rubbing away the surface of the zoarium, thus exhibiting the complete polypide tube.
6. Microstructure of the mural rim, × 100. The elements of the olycyst composing the rim are grouped in radial rows about the opesium.
7. Two fragmentary zoaria, natural size.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64257, U.S.N.M.

FIGS. 8–13. *Membraniporella ? subagassizi*, new species (p. 289).

8. A group of zoaria, natural size.
9. Portion of zoarium, × 20, showing the arch above the aperture of the ovicelled zooecia.
10. Zoarium, × 20, with both ovicelled and nonovicelled zooecia. The structure of the hyperstomial ovicell is illustrated.
11. Fragment of an old zoarium, × 20, with the cribriform areas separated by a thick mural rim.
12. Zooecia, × 20, in which the small lacuna is not present. The avicularia are very salient and the upper zooecium has a calcareous operculum.
13. Zoarium, × 20, composed of zooecia without ovicells.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64258, U.S.N.M.

FIG. 14. *Puellina simulator*, new species (see also pl. 41, fig. 21) (p. 298).

Surface of the incrusting zoarium, × 25, showing the two oral avicularia to each ovicelled zooecium.

Vicksburgian (Marianna limestone): Near Claiborne, Monroe County, Alabama.

Cat. No. 64259, U.S.N.M.

FIG. 15. *Puellina inarmata*, new species (p. 299).

The incrusting zoarium, × 25, showing the absence of avicularia.

Vicksburgian (Marianna limestone): Murder Creek east of Castlebury, Conecuh County, Alabama.

Cat. No. 64260, U.S.N.M

FIG. 16. *Gephyrotes spectabilis*, new species (p. 303).

The incrusting zoarium of this unique species, × 20. The large irregular interzooecial cavities, the spiramen and the two prominent oral avicularia are to be noted.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64261, U.S.N.M.

Plate 85.

Figs. 1–3. *Arachnopusia vicksburgica*, new species (p. 311).
1, 2. Two views of a zoarium incrusting a shell, × 20.
3. Photograph, × 40, showing the zooecial structure in detail. The polygonal pieces pierced by a semilunate pore composing the frontal and the rectangular plate covering the ovicell are quite visible.
Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 64262, U.S.N.M.

Figs. 4–12. *Acropora saillans*, new species (p. 319).
4. A group of the free, cylindrical, bifurcated zoaria, natural size.
5. An unbranched zoarium, × 20. The ascopore is quite large and salient.
6. A branching zoarium, × 20, with the small avicularia on the peristome and the ascopore well developed.
7. Bifurcated zoarium, × 20, with all the zooecial characters well developed.
8. Photograph of a preparation, × 20, obtained by longitudinal section. The ascopore is not symmetrically placed on all the zooecia.
9. Transverse thin section, × 20.
10. View of the interior of the zooecia, × 20, seen from the basal side. The ascopore, apertura, and the peristomie as well as the base of the tremopores showing through the thin olocyst, are visible.
11. Schematic longitudinal section through a zooecium, × 20, illustrating the structure. *asc*, ascopore; *av*, avicularium; *pe*, peristome; *pi*, peristomie; *pic*, peristomice; *tr*, tremocyst; *z*, zooecium.
12. Longitudinal thin section through the middle of a zoarium, × 20. The chain of median fusiform areas results from the alternation of the zooecia seen in perspective.
Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 64263, U.S.N.M.

Fig. 13. *Schizomavella longirostris*, new species (p. 358).
Surface of the bilamellar zoarium, × 20, with ovicelled zooecia and prominent median avicularium.
Vicksburgian (Red Bluff member): Red Bluff, Wayne County, Mississippi.
Cat. No. 64264, U.S.N.M.

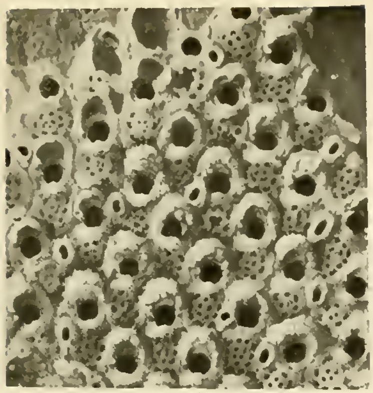
Fig. 14. *Thalamoporella prima*, new species (p. 269).
The type-specimen, × 20, a fragment of a bilamellar zoarium.
Uppermost Vicksburgian (Byram marl); Leaf River, Smith County, Mississippi.
Cat. No. 64265, U.S.N.M.

Figs. 15, 16. *Trypostega venusta* Norman, 1864 (p. 330).
15 An example, × 20, with the frontal removed by abrasion to show the dietellae around the zooecia but none around the zooeciules.
16. Surface of the incrusting zoarium, × 20, of a specimen identified with this recent species.
Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 64266, U.S.N.M.

Figs. 17, 18. *Hippomenella capitimortis*, new species (p. 384).
17. Ovicelled zooecia, × 20, showing the characteristic death's head appearance due to the perforations in the ovicell.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64267, U.S.N.M.
18. Surface of the bilamellar zoarium, × 20.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64268, U.S.N.M.

Figs. 19–21. *Stephanosella entomostoma* Reuss, 1847 (p. 345).
19. Portion of the incrusting zoarium, × 20, in which the zooecia have small scattered areolae and the accompanying granulations.
20. Zooecia without ovicell, × 20. The oral avicularium is small and without pivot. The ancestrula is an ordinary zooecium; the avicularia are without pivot.
21. Ovicelled zooecia, × 20. The avicularia are frontal instead of oral, and olocyst forms the zooecial frontal and the ovicells are marked by a crownlike border. The avicularia have a pivot.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64269, U.S.N.M.

Fig. 22. *Stephanosella parvipora*, new species (p. 344).
Surface of the incrusting zoarium, × 20, showing the small dimensions.
Vicksburgian ("Chimney rock" of Marianna limestone): Three miles southeast of Vosburg, Jasper County, Mississippi.
Cat. No. 64270, U.S.N.M.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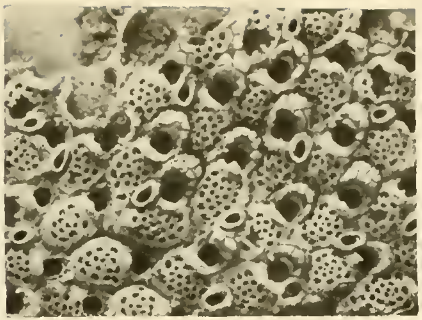
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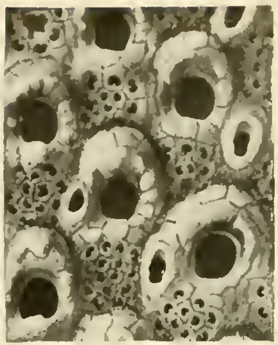
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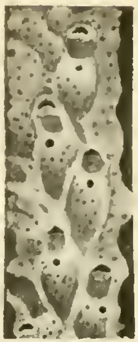
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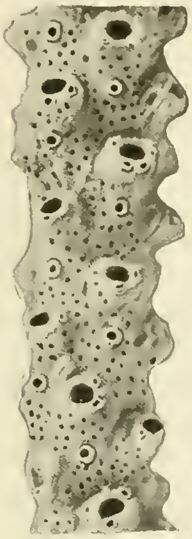
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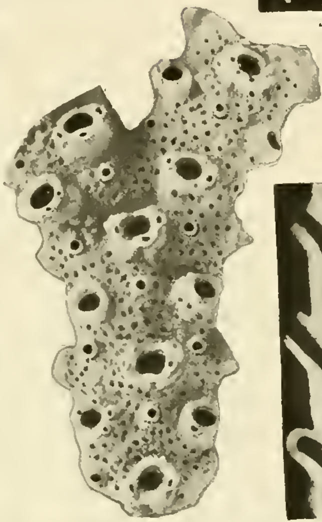
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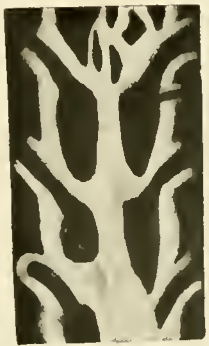
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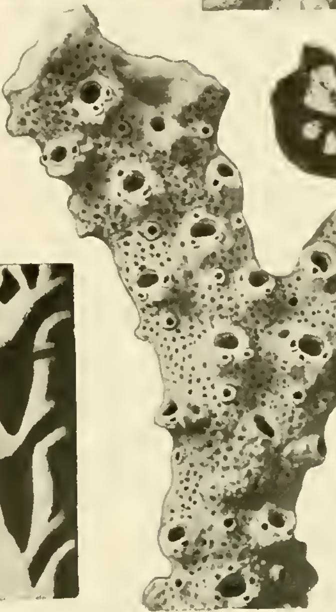
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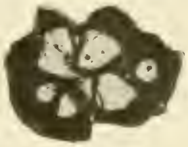
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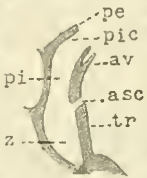
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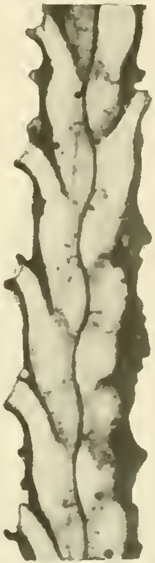
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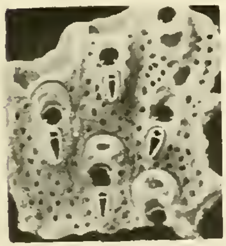
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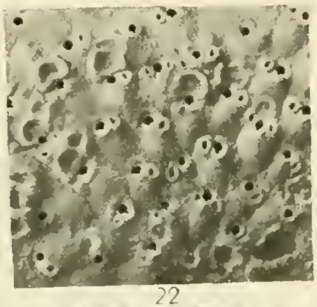
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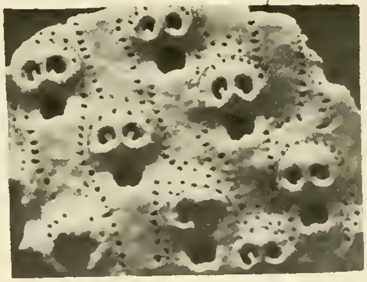
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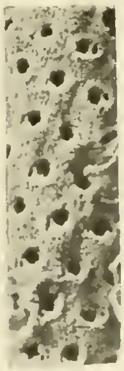
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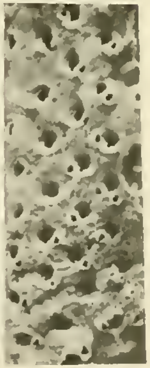
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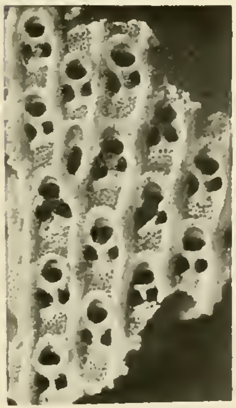
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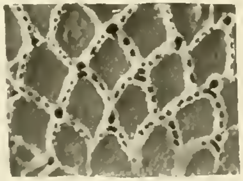
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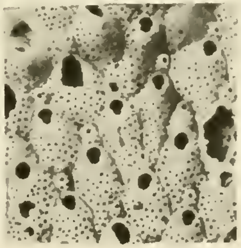
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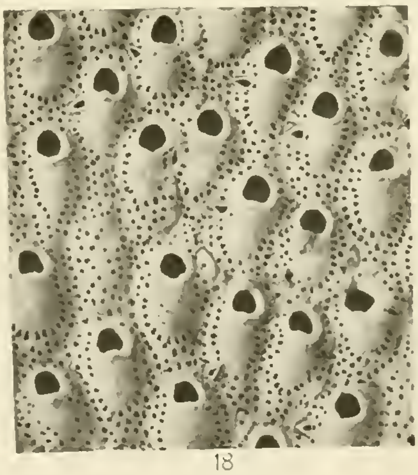
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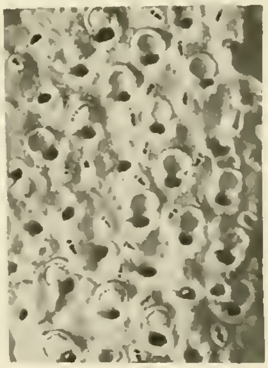
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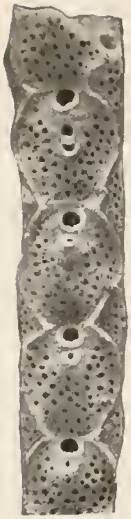
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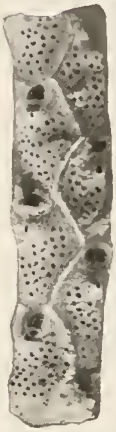
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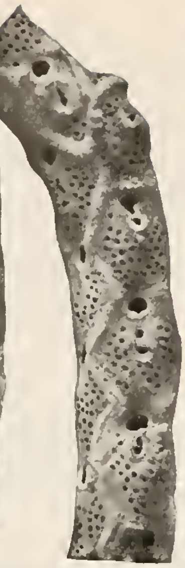
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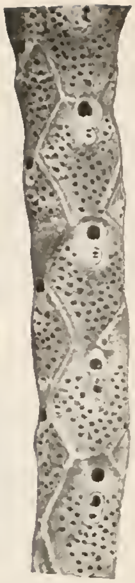
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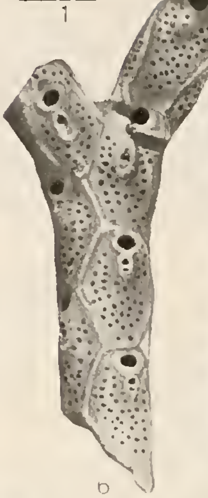
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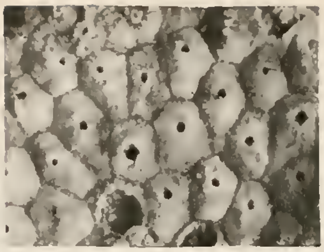
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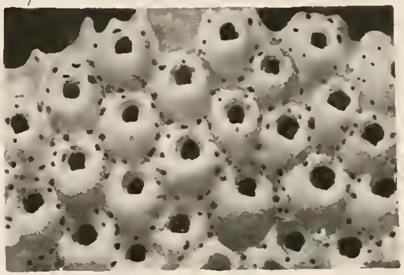
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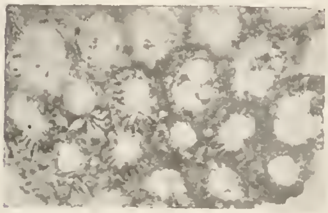
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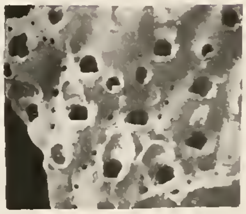
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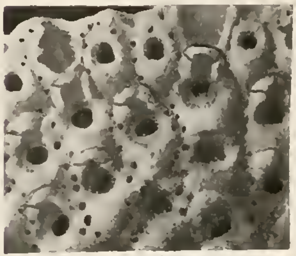
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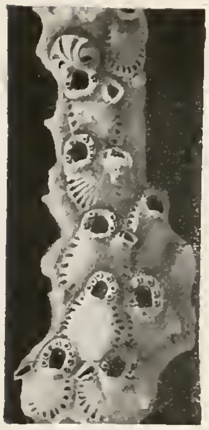
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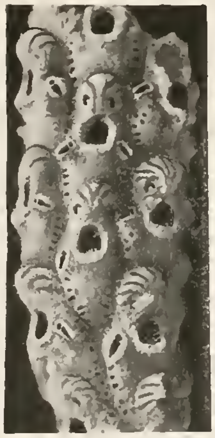
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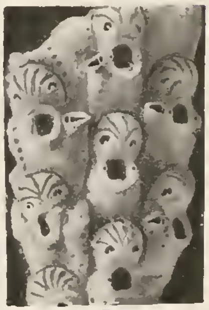
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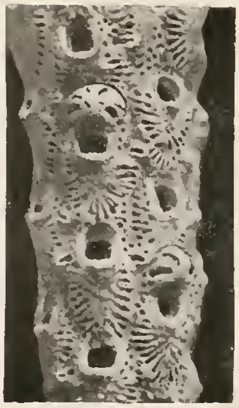
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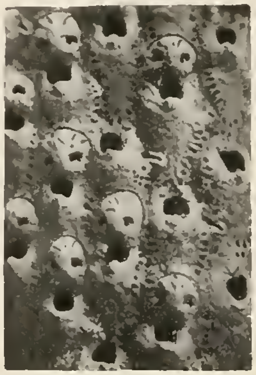
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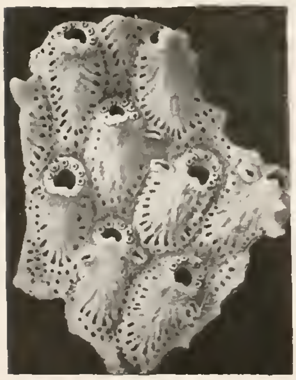
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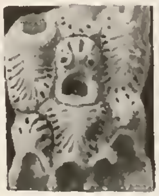
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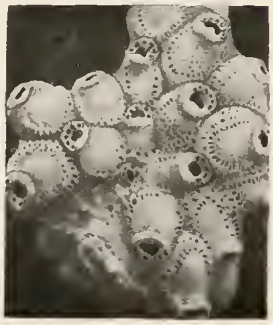
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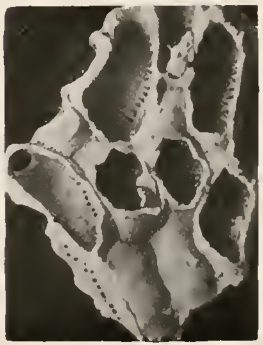
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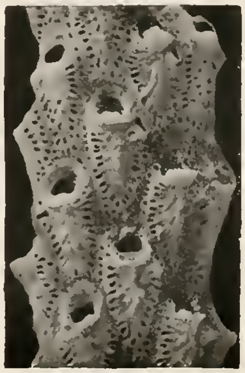
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 86.

FIGS. 1–6. *Schizomarella arborea*, new species (p. 357).

1. Fragments of the rodlike zoarium, natural size.
2. Four-sided zoarium, × 20, with rectangular sides and small avicularia.
3. Profile view of small fragment, × 20.
4. A rounded fragment, × 20, with small avicularia.
5. Another rounded zoarium, × 20, exhibiting variations in length of the elliptical avicularium.
6. Branching zoarium, × 20, with the salient punctate ovicell preserved on the uppermost zooecium.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64271, U.S.N.M.

FIGS. 7–13. *Hippoporella perforata*, new species (p. 378).

7. The free, orbicular zoarium, natural size.
8. Lower face of zoarium, × 20, showing perforations, probably for radical fibers.
9. Ordinary zooecia, × 20, with areolae frequently occurring above the aperture.
10. Tangential thin section, × 20, showing olocystal elements of frontal wall radiating from the aperture toward the areolae.
11. Zooecia at the center of the zoarial surface, × 20. These zooecia are erect and have large auriculated vibracula.
12. Ovicelled zooecia, × 20. The ovicell is formed of three closely arranged calcareous pieces.
13. Zoarium, × 20, showing hydrostatic tuberosities accompanying the perforations of the lower face.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64272, U.S.N.M.

FIGS. 14–19. *Hippomenella costulata*, new species (p. 385).

14. Group of the more or less cylindrical free zoaria, natural size.
15. Zoarium, × 20, in which the interareolar costules are little developed.
16. Ovicelled zooecia, × 20, showing the two perforations and the costules on the ovicell.
17. Ovicelled zooecia, × 20, with transverse avicularia.
18. Zoarium, × 20, in which the interareolar costules are strongly developed.
19. Portion of zoarium, × 20, with more than the usual six rows of zooecia.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64273, U.S.N.M.

FIGS. 20–24. *Hippomenella transversora*, new species (p. 388).

20. Fragment of the unilamellar zoarium, × 20, illustrating the salient proximal mucro of the aperture and the transverse avicularia.
21. Ovicelled zooecia, × 20, showing resemblances to *Hippomenella costulata*.
22. Zooecia about the ancestrula, × 20. The latter is the small oval zooecium at the center of the figure.
23. Basal side of a zoarium, × 20, with some zooecia broken so as to show the interior.
24. Zoarium with a broad salient mucro on some of the zooecia, × 20.

Vicksburgian (Marianna limestone): West bank of Conecuh River, Escambia County, Alabama, and Murder Creek, east of Castlebury, Conecuh County, Alabama (fig. 23).

Cat. Nos. 64274, 64275, U.S.N.M.

PLATE 87.

FIGS. 1–4. *Hippomenella pungens*, new species (p. 388).

1. Surface of the unilamellar zoarium, × 20, illustrating characters of the ordinary zooecia.
2. Basal side of zooecia, × 20, exhibiting the hydrostatic tuberosities.
3. Another zoarium, × 20, with some ovicelled zooecia.
4. Several zooecia, × 20 showing the frontal to be formed of a thin pleurocyst containing the areolae and of an underlying smooth olocyst.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64276, U.S.N.M.

FIGS. 5, 6. *Hippodiplosia baccata*, new species (p. 397).

5. Surface of a zoarium, × 20, incrusting a shell. The short zooecia, small avicularium and pearl like tuberosities of the frontal are characteristic features.
6. Ovicelled zooecia, × 20. The tremopores are more visible in this specimen.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64277, U.S.N.M.

FIGS. 7–9. *Hippodiplosia magniporosa*, new species (p. 396).

7. Young zooecia, × 20, with their peristome.

Vicksburgian (Red Bluff member): Seven and a half miles southeast of Bladen Springs, Alabama.

Cat. No. 64278, U.S.N.M.

8. Surface of the hollow, cylindrical zoarium, × 20, illustrating the normal characters of the zooecia.
9. Zooecia, × 20, showing tremocyst detached from olocyst.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

Cat. No. 64279, U.S.N.M.

FIGS. 10–13. *Hippodiplosia strangulata*, new species (p. 397).

10. Surface of the unilamellar zoarium, × 20, showing narrow zooecia.
11. Another example, × 20, with broad zooecia.
12. A zoarium, × 20, in which the zooecia are bordered by a salient line.

Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Conecuh County, Alabama.

Cat. No. 64280, U.S.N.M.

13. Ovicelled zooecia, × 20.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64281, U.S.N.M.

FIG. 14. *Peristomella coccinea resupinata* Manzoni, 1875 (p. 412).

Portion of a free, erect zoarium, × 20. The elongated tubular part below the external aperture is well shown on this specimen.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64282, U.S.N.M.

FIG. 15. *Cyclicopora colum*, new species (p. 425).

The incrusting type-specimen, × 20. The large tremopores and the simple elliptical avicularium arising from a lateral tremopore are shown. Several ovicelled zooecia are present.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64283, U.S.N.M.

FIGS. 16, 17. *Peristomella erecta*, new species (p. 413).

16. A young example of this species, × 20. The interareolar costules and the longitudinally arranged avicularia are well shown.
17. An older example, × 20, in which the zooecial frontal is covered by the granular deposit of the pleurocyst.

Vicksburgian (Marianna limestone): Near Claiborne, Monroe County, Alabama.

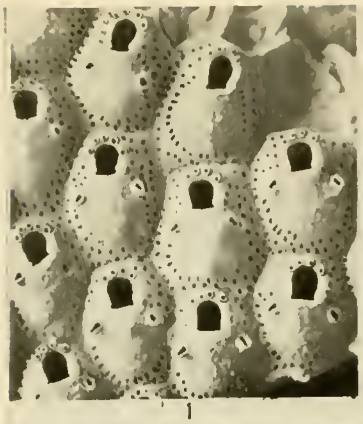
Cat. No. 64284, U.S.N.M.

FIG. 18. *Peristomella coccinea* Abildgaard, (p. 409).

Surface of the incrusting zoarium, × 20. The small mucro on the peristome, the spines and the two large oblique avicularia, are characteristic of the species.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64285, U.S.N.M.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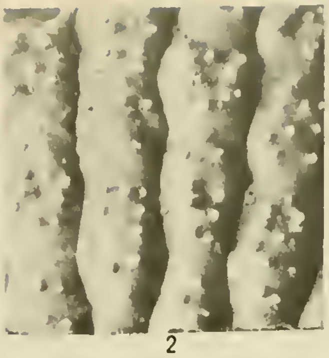
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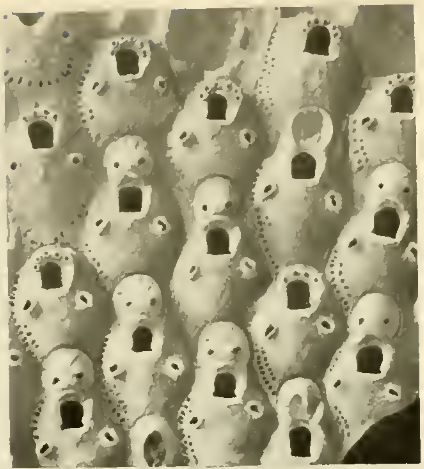
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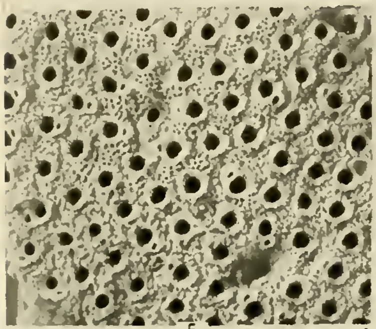
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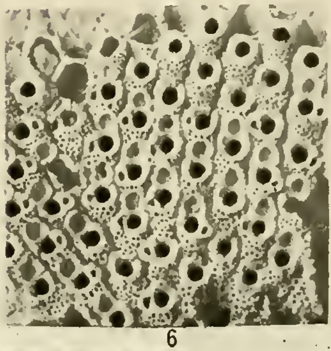
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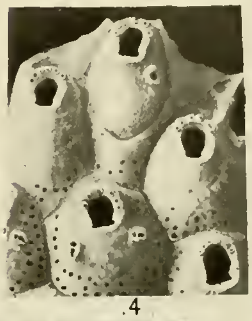
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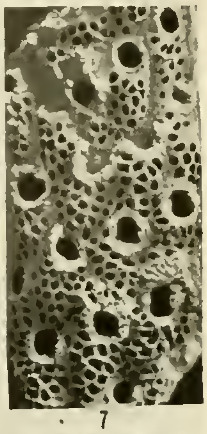
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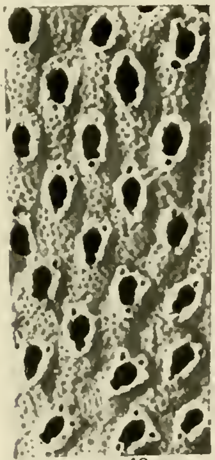
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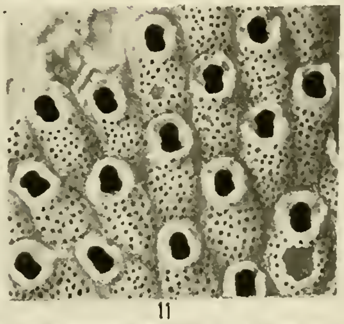
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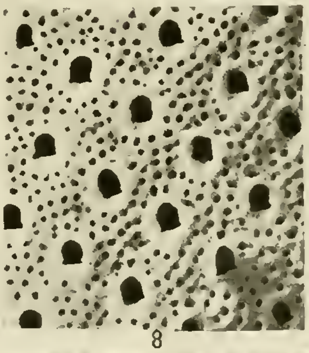
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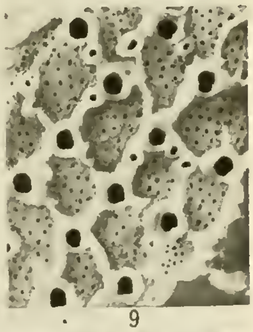
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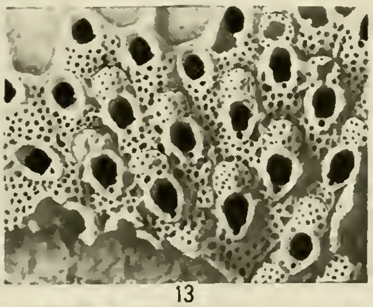
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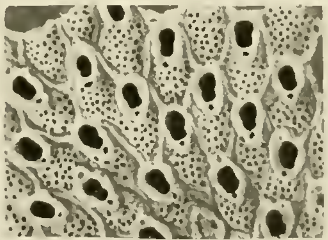
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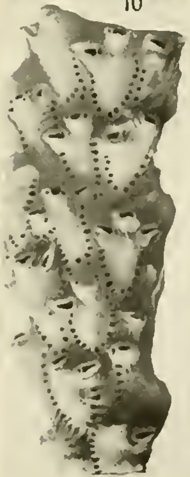
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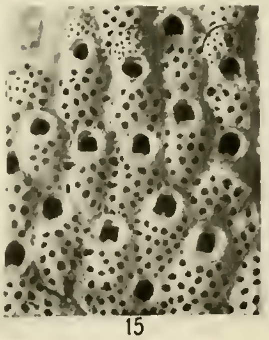
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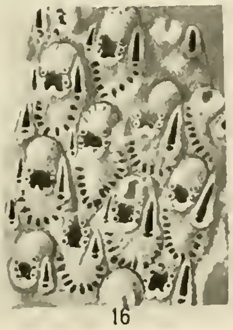
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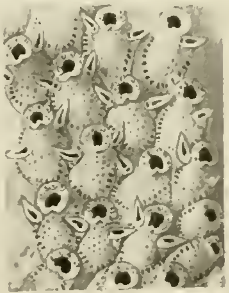
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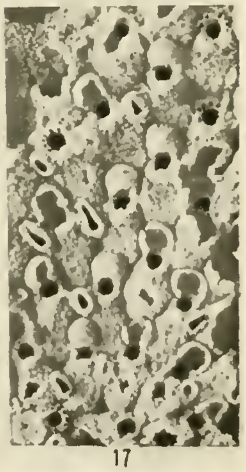
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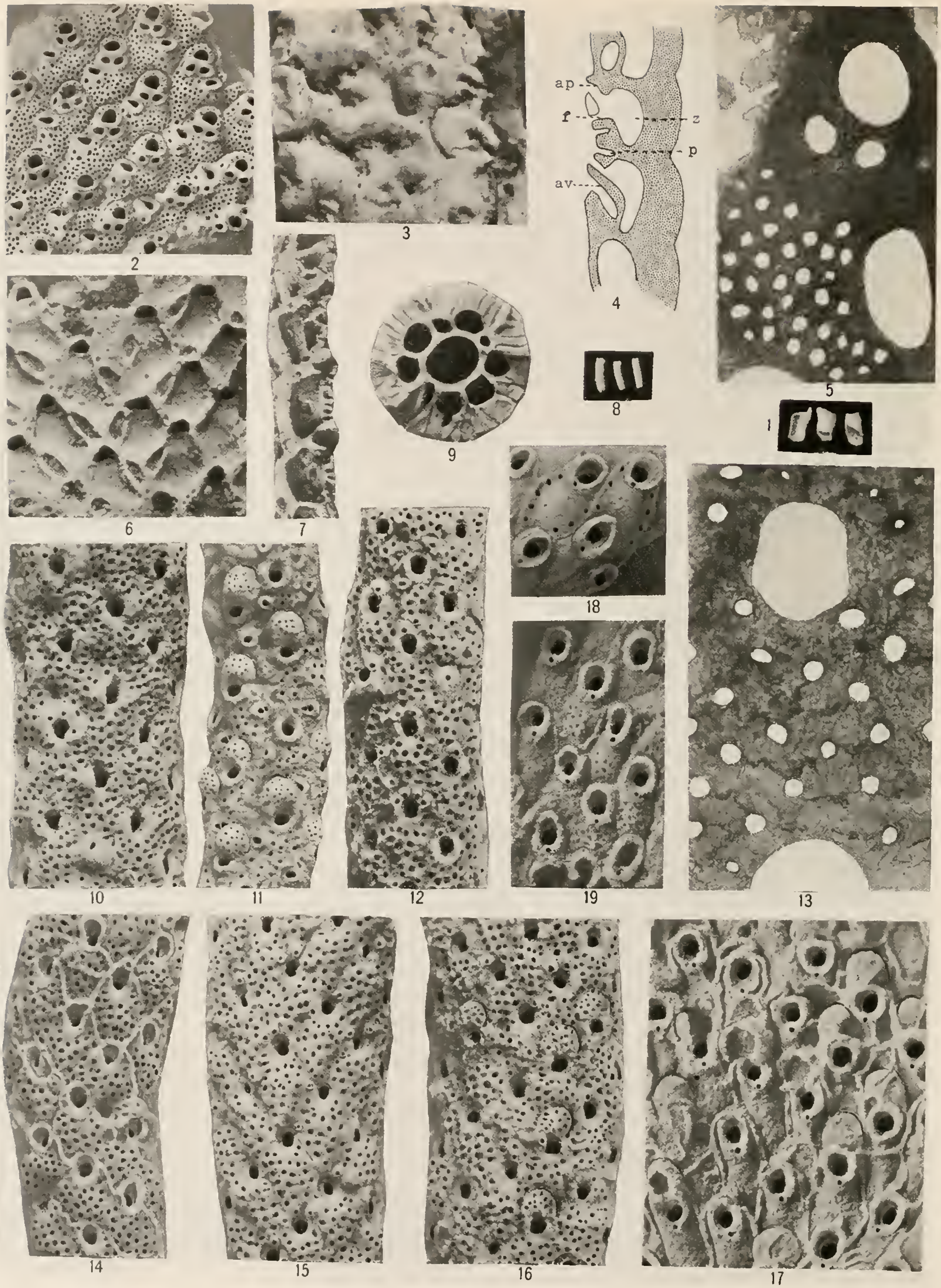
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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Vicksburgian Cheilostomatous Bryozoa.

PLATE 88.

FIGS. 1–7. *Didymosella crassa* Canu and Bassler, 1917 (p. 416).

1. Three of the unilamellar zoaria which by growth about algae have assumed a cylindrical form; natural size.
2. Surface of a zoarium, × 20, showing the bottle shaped zooecia with tremocystal frontal, two large pores opening into the zooecium and the triangular marginal avicularium.
3. Basal side of a zoarium, × 20, exhibiting the characteristic markings.
4. Sketch of longitudinal section, × 25, illustrating the structure of this species. *ap*, apertura; *av*, avicularian cavity; *f*, very large frontal pore; *p*, smaller pores (tremopores); *z*, zooecium.
5. Tangential thin section, × 100. The aperture with the two large pores just below it, the tremopores and finally the very large avicularian cavity are visible.
6. View of the interior of the zooecial frontal, × 20, illustrating the very large avicularia.
7. Longitudinal edge view of zooecia, × 20, showing the same features as in figure 4.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 62592, U.S.N.M.

FIGS. 8–16. *Cyclicopora spongiopsis* De Gregorio, 1899 (p. 426).

8. Three small specimens, natural size, of the hollow stemmed unilamellar zoarium.
9. Transverse section, × 20, showing the thick walls of both the frontal and the tubules.
10. An old example, with a calcified zooecium, × 20.
11. Zoarium, with some ovicelled zooecia and triangular avicularia with pivot, × 20.
12. An example in which the zooecia develop one to four peristomial avicularia, × 20.
13. Tangential thin section, × 100. The large tremopores and the dark sinuous lines of intersection with the olocyst are visible.
14. A zoarium, × 20, with the zooecia outlined by a prominent thread.
15. Another specimen, × 20, in which usually only one peristomial avicularium is developed.
16. Part of a zoarium, × 20, exhibiting five ovicelled zooecia.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64286, U.S.N.M.

FIGS. 17–19. *Cyclicopora filifera*, new species (p. 427).

17. Surface of the incrusting zoarium, × 20, with ovicelled zooecia. Many of the ovicells are broken. The tremocyst is here replaced by a thick pleurocyst.
18. Several zooecia, × 20, of a specimen with well defined separating lines.
19. Well preserved example, × 20, with the tremopores visible and the apertura placed at the bottom of the peristomie.

Vicksburgian (Marianna limestone): Near Claiborne, Monroe County (figs. 17, 19), and west bank of Conecuh River, Escambia County, Alabama (fig. 18).

Cat. Nos. 64287, 64288, U.S.N.M.

PLATE 89.

FIGS. 1–14. *Stomachetosella crassicollis* Canu and Bassler, 1917 (p. 433).

1. Fragments of the bifoliate zoarial fronds, natural size.
2. Portion of a broad zoarium. × 20, exhibiting the usual characters of the zooecia without ovicells.
3. A narrow zoarium, × 20, showing the tremopores of constant size.
4. Zooecia, × 20, with well developed rimule spiramen and zooecial outlines little distinct.
5. Surface of an old zoarium, × 20, with the zooecia separated by a distinct thread and the anterior projection of the peristome little conspicuous.
6. Another surface, × 20, with the peristome more reduced.
7. Old zooecia, × 20, with peristomes almost wanting. The olocyst and tremocyst are visible.
8. Surface of zoarium with ovicelled zooecia, × 20. The tremopores are inconspicuous on account of fossilization and the peristome is not salient.
9. A normal zoarium with ovicelled zooecia, × 20.
10. Tangential thin section, × 100, passing through the olocyst and showing the beginning of the tremopores.
11. View of the interior of the zooecial frontal, × 20. The zooecial and avicularian cavities and the small beginnings of the tremopores are visible.
12. Drawing of longitudinal section, × 20, showing the apertura (*ap*), olocyst, (*ol*), ovicell, (*ov*), peristomice (*pic*), trempores (*tr*), and zooecium (*z*). The walls are very thick.

13, 14. Transverse thin section, × 20, and a portion of the same, × 50, illustrating the thick zooecial walls of which there is a special one for each zooecium.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

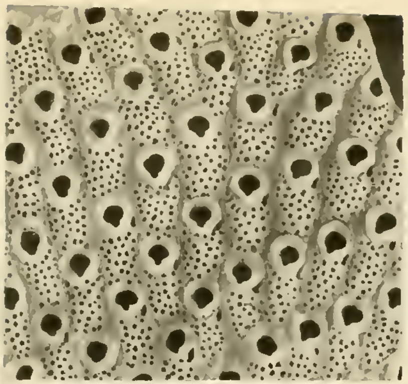
Cat. No. 62593, U.S.N.M.

FIGS. 15–20. *Enoplostomella magniporosa*, new species (p. 439).

15. Fragments of the free bifurcating zoarium, natural size.
16. Zooecia, × 20, with tremopores coalesced, giving an unusual appearance.
17. Dorsal side of mature zoarium, × 20. The zooecia are separated by sharp ridges and are provided with large tremopores.
18. Dorsal of a young specimen, × 20.
19. Frontal side of the same specimen, × 20, with one ovicelled zooecium.
20. Normal zooecia, × 20. The wide rounded rimule spiramen, the oral avicularium almost within the peristomie and the very large tremopores are to be noted.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64289, U.S.N.M.



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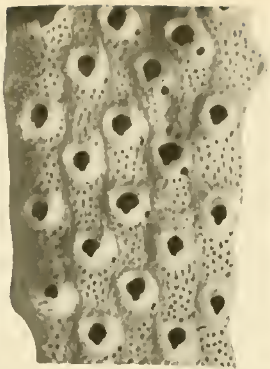

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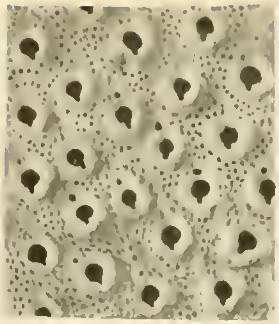

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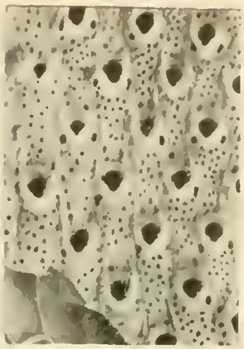

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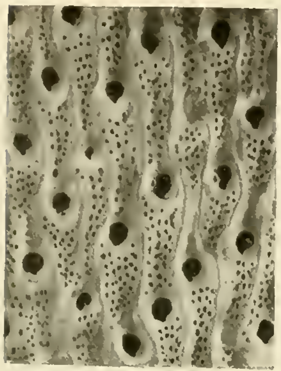

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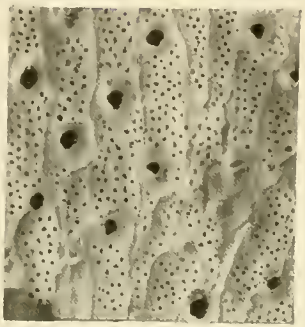

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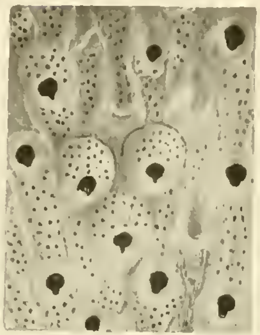

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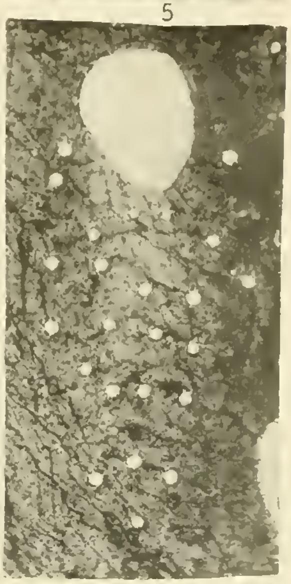

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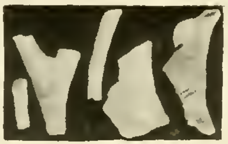

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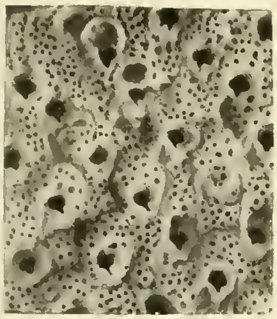

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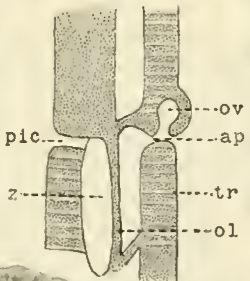

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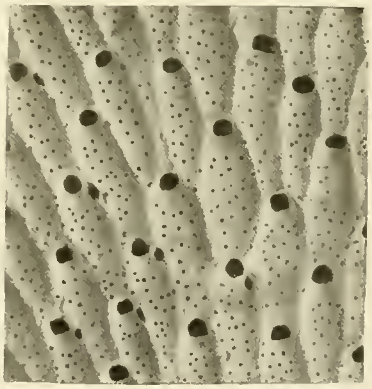

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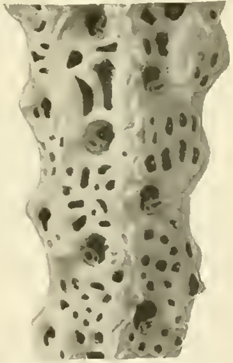

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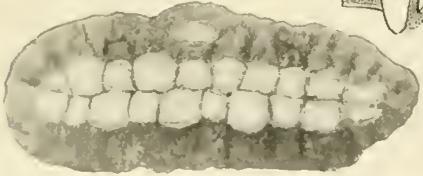

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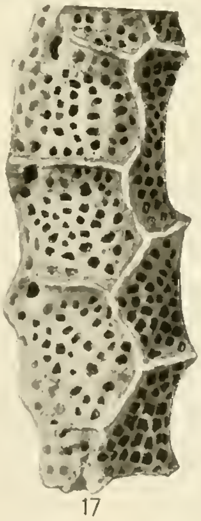

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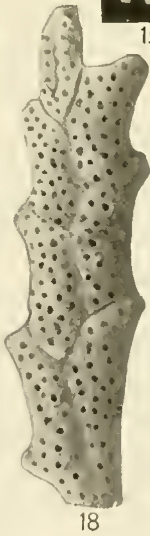

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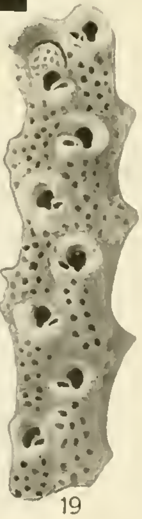

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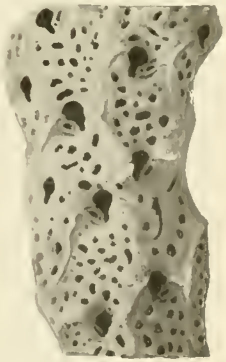

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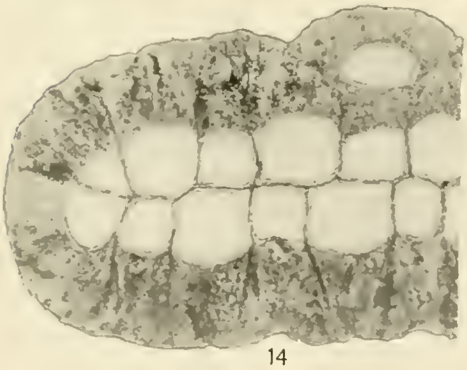

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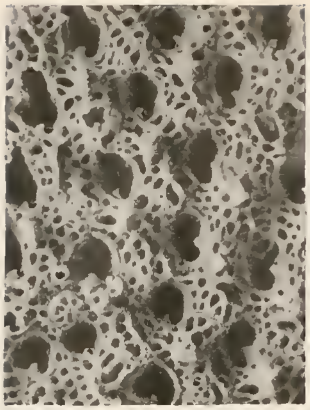
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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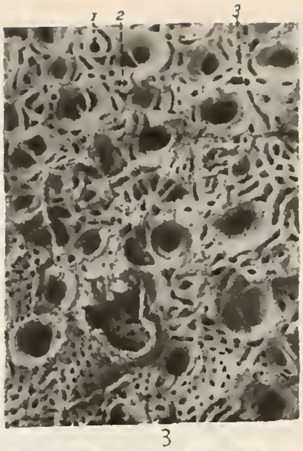

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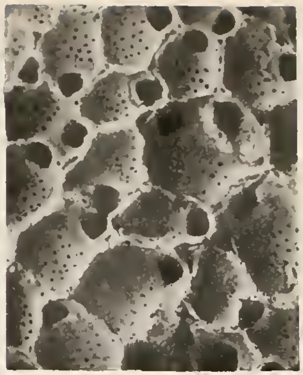
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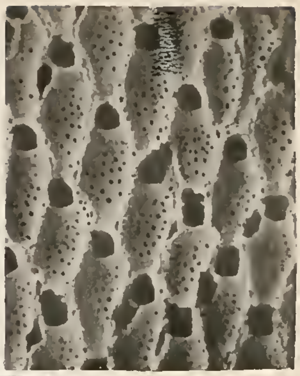
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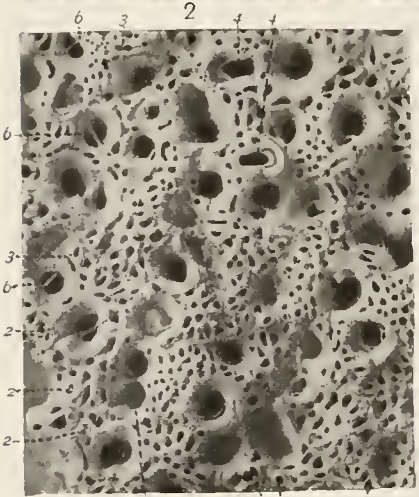
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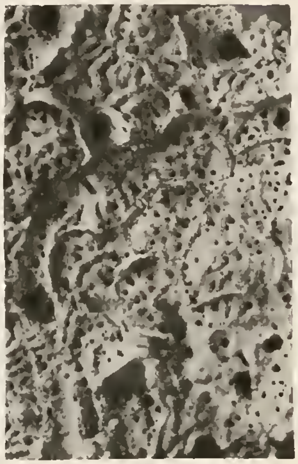
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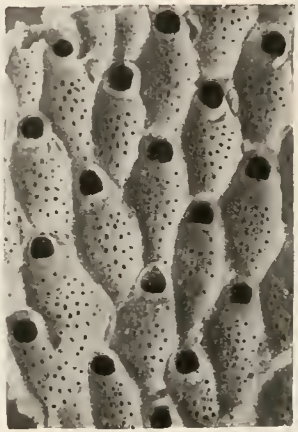
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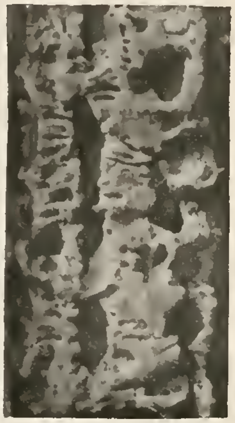
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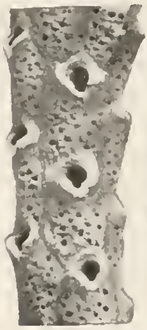
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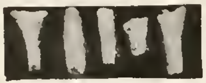
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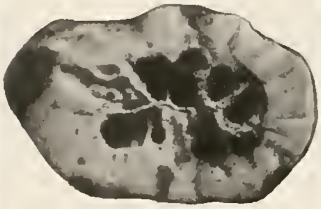
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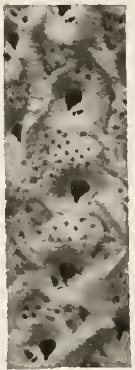
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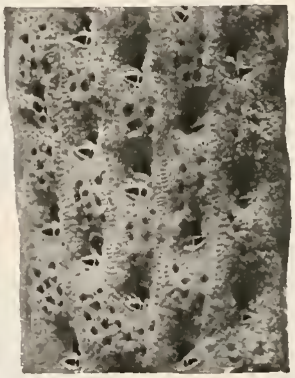
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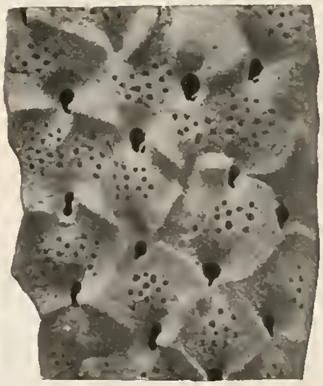
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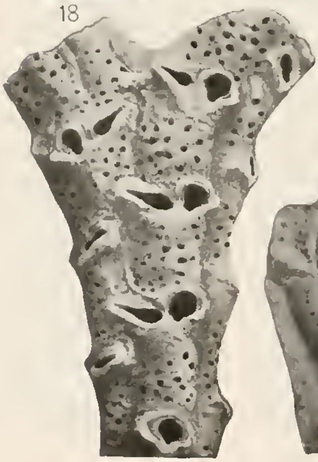
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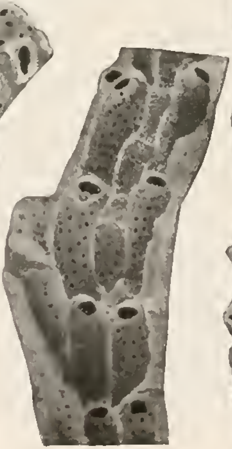
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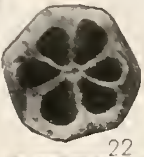
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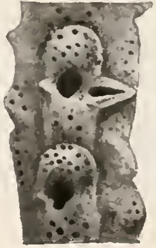
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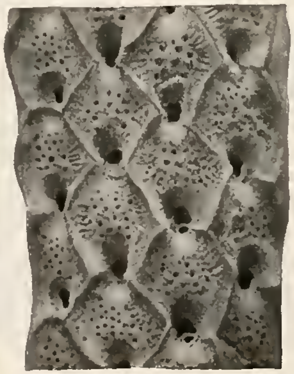
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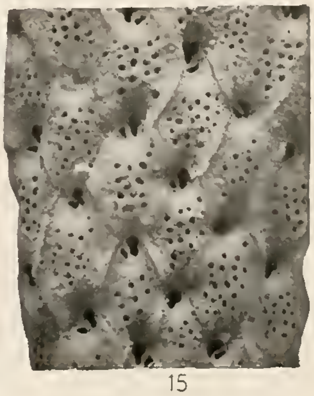
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 90.

FIGS. 1–9. *Enoplostomella synthetica*, new species (p. 434).

1. Three fragments, natural size, of the bifoliate zoarium.
2. Surface of a zoarium, × 20, showing normal characters of the zooecia. A broken ovicell is seen in the left-hand portion, and a complete one in the lower part of the same side. The rimule spiramen and the avicularium in the peristomie are visible.
3. Zoarial surface, × 20, illustrating the irregularity due to the transformation of the tubules. Three different forms of avicularia may be noted.
4. An interior of the zooecial frontal, × 20, with avicularian cavities exhibited.
5. Another interior, × 20, showing oriented zooecia and tubules perforating the olocyst.
6. A zoarial surface, × 20, with zooecia unoriented and exhibiting small, simple avicularia (1), small avicularium with denticles (2), with pivot (3), large avicularia with area (4) and without area (5), and large avicularia with pivot (6).
7. A surface, × 20, showing an extreme development of the tubules closing the apertures.
8. Interior of frontal, × 20, of specimen figured in number 7, illustrating the simplicity of structure.
9. Longitudinal fracture through zoarium, × 20.

Vicksburgian (Byram marl): Byram, Mississippi.
Cat. No. 64290, U.S.N.M.

FIGS. 10–16. *Enoplostomella rhomboidalis*, new species (p. 436).

10. A group of the cylindrical, bifoliate zoaria, natural size.
11. Surface of a zoarium, × 20, with two zooecia exhibiting ovicells
12. Zoarium, × 20, with well defined triangular avicularia and with the line separating the zooecia much thickened.
13. Zooecia, × 20, with the separating ridges thickened only near the apertura.
14. Another zoarium, × 20, with broad zooecia and salient separating ridges.
15. Zoarium with narrow zooecia, × 20.
16. Transverse feature, × 20, illustrating bifoliate character of zoarium.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 64291, U.S.N.M.

FIGS. 17–22. *Enoplostomella ligulifera*, new species (p. 437).

17. Three fragments, natural size, of the free, cylindrical zoarium.
18. Another specimen, × 20, with the rimule spiramen well developed and the avicularia wanting.
19. Surface of a zoarium, × 20, showing the long avicularia and the lateral tongue like processes of the peristomice.
20. Interior of zooecial frontal, × 20, exhibiting the small scattered pores of the olocyst.
21. Two zooecia with ovicells, × 20.
22. Transverse fractures, × 20, illustrating structure of zoarium.

Vicksburgian (Red Bluff member): Seven and one-half miles southwest of Bladon Springs, Alabama.
Cat. No. 64292, U.S.N.M.

PLATE 91.

FIGS. 1–11. *Enoplostomella crassimuralis*, new species (p. 435).

1. Three fragments of the hollow, cylindrical zoarium, natural size.
2. Surface of zoarium, × 20, with the zooecia separated by thick, smooth walls.
3. Zooecia of another zoarium, × 20, illustrating the irregularity of the tremopores.
4. Zooecia, × 20, with prominent avicularia.
5. Zooecia, of young portion of zoarium, × 20. The tremopores are here smaller and more regular in size, and the rimule-spiramen and avicularium are quite apparent.
6. Interior of frontal of zooecia, × 25, showing regular arrangement of the zooecia, the avicularian cavity and the olocyst with minute pores
7. Another interior, × 20, in which the avicularian cavities are not seen.
8. Tangential thin section through the frontal, showing the obscure remains of the tremopores and the fusion of the zooecial walls.
9. Transverse fracture of a zoarium, × 20, showing no special zooecial walls.
10. Transverse thin section of a branch, × 20. The tubules are scarcely visible in the dense structure.
11. Tangential thin section, × 20, below the frontal.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 64293, U.S.N.M.

FIGS. 12–21. *Enoplostomella defixa* Canu and Bassler, 1917 (p. 436).

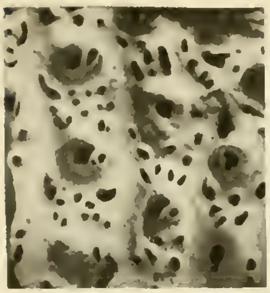
12. Group of the small, free cylindrical zoaria, natural size.
13. A zoarium, × 20, exhibiting short avicularia.
14. Zooecia, × 20, with small numerous tremopores and well developed avicularia.
15. Ovicelled zooecia, × 20, with salient avicularia.
16. Another zoarium, × 20, in which the avicularium is long and salient. The zooecia are bordered by a salient thread.
17. Portion of a thick zoarium, × 20, with worn avicularia.
18. Another zoarium with worn avicularia and attenuated tremopores, × 20.
19. Transverse fracture of a branch, × 20.
20. Interior of frontal of zooecia, × 20.
21. Tangential thin section through the frontal, × 100. The lateral tremopores only are seen, while between them the section cuts the olocyst.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 62594, U.S.N.M.

FIGS. 22, 23. *Leiosella orbicularia*, new species (p. 450).

22. Fragment of the free, cylindrical bifoliate zoarium, natural size.
23. Surface of the same specimen, × 20. The frontal is a smooth, thick olocyst, the pores exhibited being small frontal avicularia.

Vicksburgian (Red Bluff member): Red Bluff, Wayne County, Mississippi.
Cat. No. 64294, U.S.N.M.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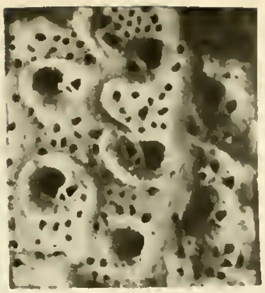
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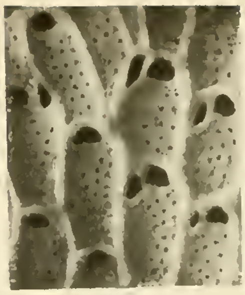
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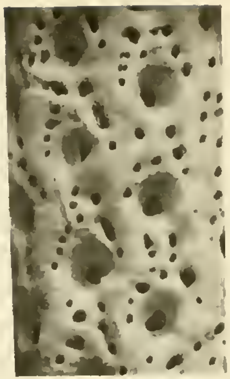
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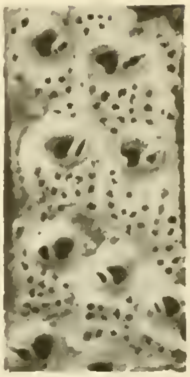
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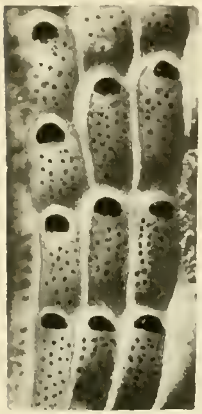
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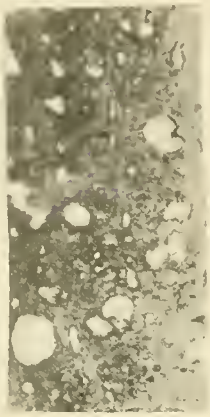
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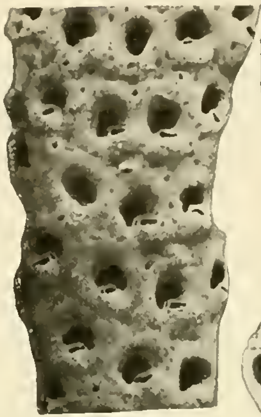
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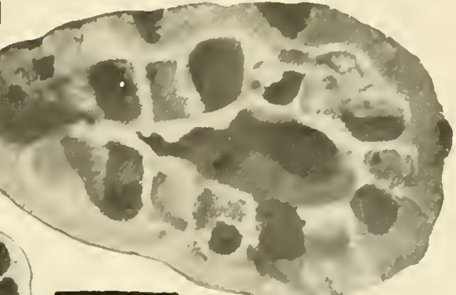
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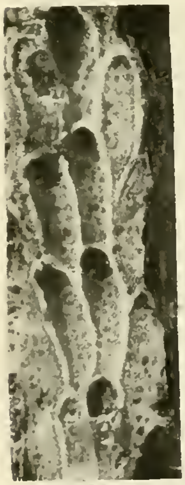
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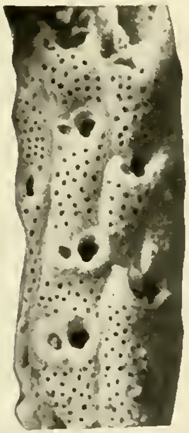
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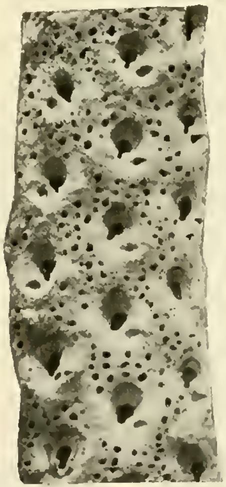
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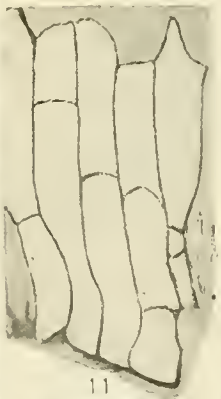
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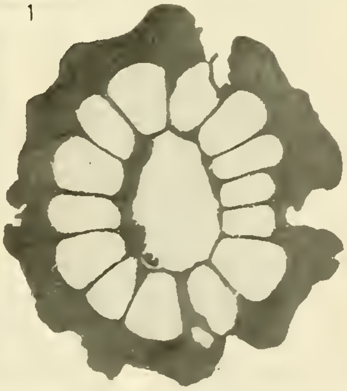
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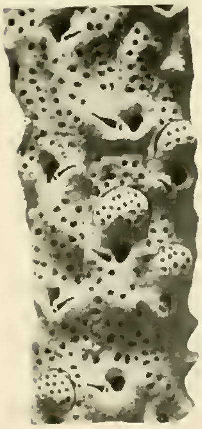
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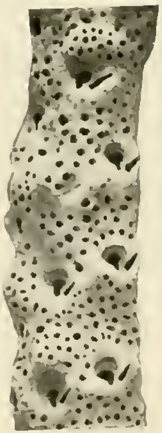
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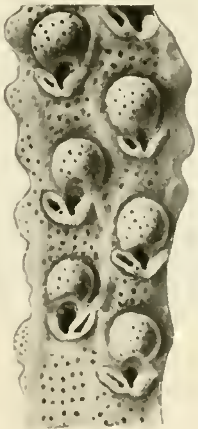
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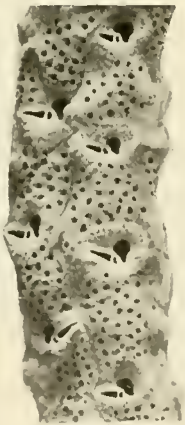
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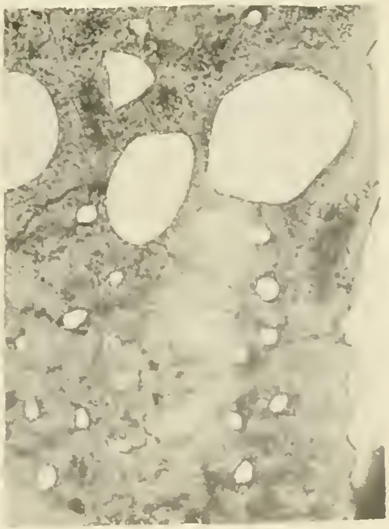
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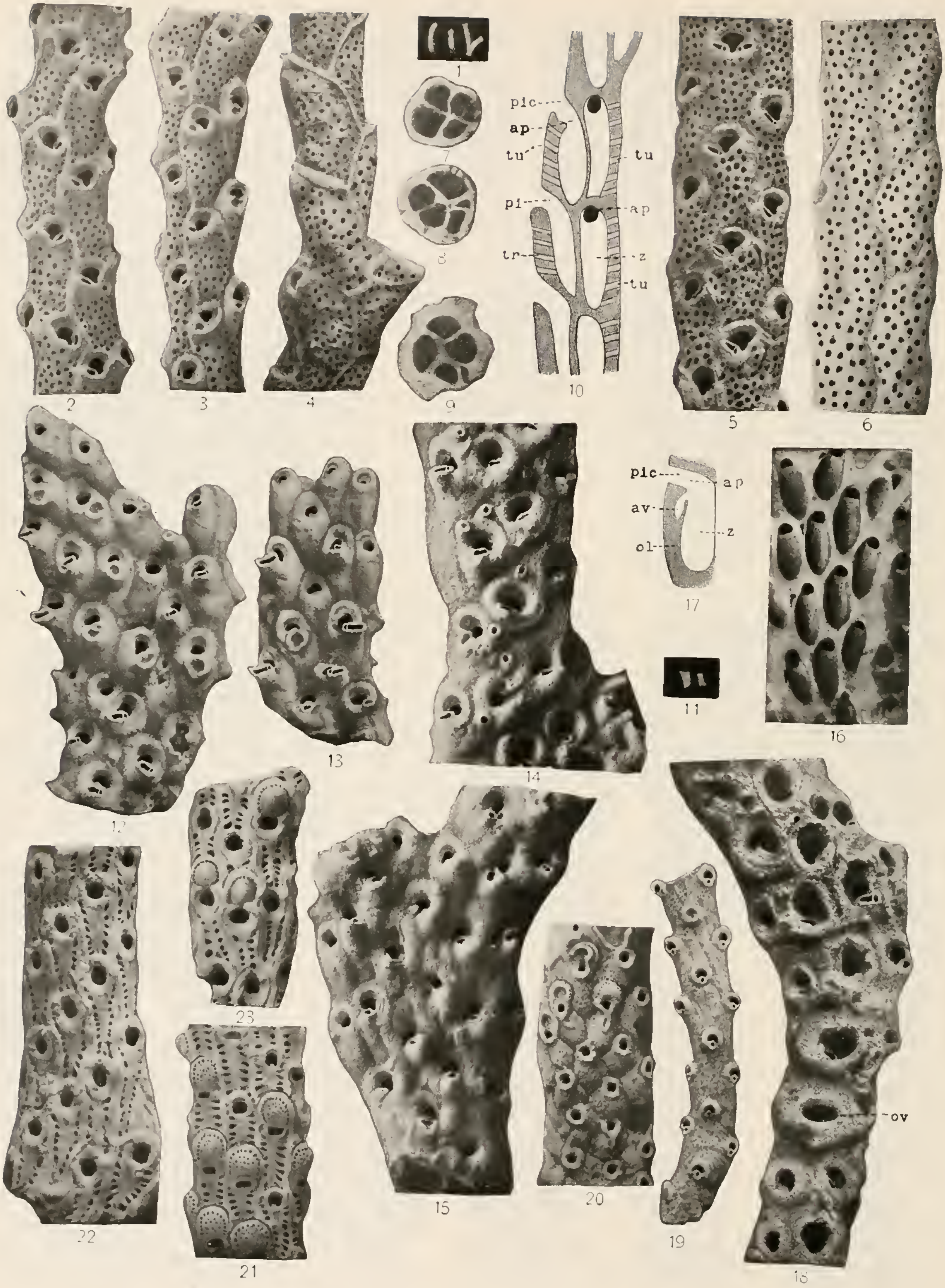
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 92.

FIGS. 1–10. *Enoplostomella vallata*, new species (p. 438).
1. Three fragments of zoaria, natural size.
2. Frontal of zooecia, × 20. The rimule-spiramen and avicularium are clearly shown.
3. Another zoarium, × 20.
4. Dorsal side of a bifurcated fragment, × 20. The characteristic ridges bounding the zooecia and the tremopores are plainly visible.
5, 6. Frontal and dorsal sides of the old zoarium, × 20, in which the ridges bounding the zooecia are wanting.
7–9. Three views, × 20, of transverse sections.
10. Sketch, × 20, showing structure of zoarium. *ap*, apertura; *pi*, peristomie; *pic*, peristomice; *tr*, tremocyst; *tu*, tubules; *z*, zooecium.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64295, U.S.N.M.

FIGS. 11–17. *Leiosella rostrifera* Canu and Bassler, 1917 (p. 449).
11. Two fragments of the free bilamellar zoarium natural size.
12. View of a fragment, × 20, showing the olocystal frontal, the rimule-spiramen, and the oral avicularium.
13. Another example, × 20, in which several of the avicularia are broken.
14. Portion of a zoarium, × 20, with some of the avicularia embedded in the olocyst. The small rounded pores are frontal avicularia.
15. Surface of another fragment, × 20, in which the oral avicularia are still more embedded and the frontal avicularia are wanting.
16. Interior of the zooecial frontal, × 20, illustrating structure.
17. Sketch of a longitudinal section through a zooecium. *ap*, apertura; *av*, avicularium; *ol*, olocyst; *pic*, peristomice; *z*, zooecium.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 62597, U.S.N.M.

FIG. 18. *Leiosella grandisora*, new species (p. 449).

The type-specimen, × 20, exhibiting the large size of the zooecia, the oral avicularia, and ovicell (*ov*).

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64296, U.S.N.M.

FIGS. 19, 20. *Smittina granulosa*, new species (p. 468).
19. A fragment of a cylindrical zoarium, × 20, showing the granulose surface and the median avicularium.

Vicksburgian: West bank of Conecuh River, Escambia County, Alabama.
20. Portion of another zoarium with ovicelled zooecia, × 20.

Vicksburgian (Marianna limestone): Deep well, Escambia County, Alabama.

Cat. No. 64297, U.S.N.M.

FIGS. 21–23. *Smittina cophia*, new species (p. 465).
21. Fragment of a young, hollow, cylindrical zoarium, × 20, exhibiting ovicelled zooecia and the small lyrula.
22. Surface of an older example, × 20, without ovicells.
23. An old example, × 20, with the ovicells somewhat immersed.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64298, U.S.N.M.

PLATE 93

FIGS. 1–9. *Smittina telum*, new species (p. 468).

1. Group of the free, cylindrical, hollow zoaria, natural size.
2. A zoarium, × 20, showing the salient lips of the peristome.
3. Another zoarium, × 20, in which these lips are wanting and the zooecia are separated by thick walls. The avicularia are small.
4. Zooecia, × 20, with large median avicularia and several broken ovicells.
5. Another aspect of the zooecial surface, × 20, with large oral tubercles.
6. Ovicelled zooecia, × 20, with enormous avicularia.
7. Another specimen with ovicelled zooecia, × 20. The ovicells are granulose.
8. Interior of the frontal, × 20, showing the olocyst perforated by areolae.
9. Tangential thin section through the frontal of a zooecium × 100.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64299, U.S.N.M.

FIGS. 10–16. *Smittina ampla*, new species (p. 466).

10. Several fragments of the bilamellar zoarium, natural size.
11. Several zooecia, × 25, with spines, avicularia, and lyrule.
12. Another zoarium, × 20, with several ovicelled zooecia, the ovicells broken.
13. Surface of a zoarium, × 20, showing zooecia with lyrula, small, salient, oral avicularium and large lateral avicularium with spatulate beaks.
14. Interior of the frontal, × 20, illustrating the structure of the olocyst and pleurocyst.
15. Zooecia, × 20, one preserving a carinated ovicell.
16. Vertical section, × 20, illustrating the apertura oblique on the zooecial plane. *ap*, apertura; *m*, mucro; *pic*, peristomice; *z*, zooecium.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

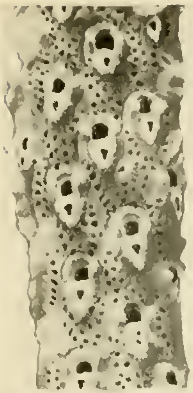
Cat. No. 64300, U.S.N.M.

FIGS. 17–20. *Porella erecta*, new species (p. 491).

17. Several fragments of the free bilamellar zoarium, natural size.
18. A frond, × 20, exhibiting the very salient umbo.
19. Another specimen, × 20, with an ovicelled zooecium.
20. An unusually broad frond, × 20. The umbo is broken and leaves a cicatrix.

Vicksburgian (Red Bluff member): Seven and one-half miles southwest from Bladen Springs, Alabama.

Cat. No. 64301, U.S.N.M.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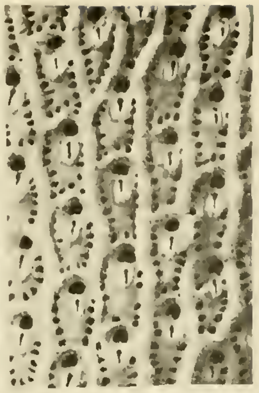
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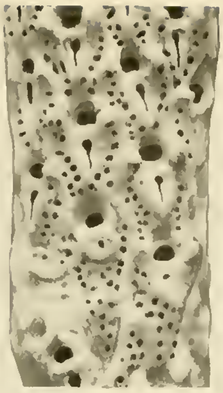
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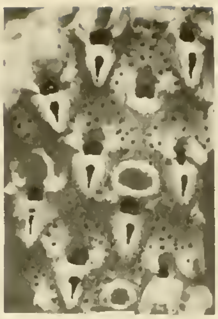
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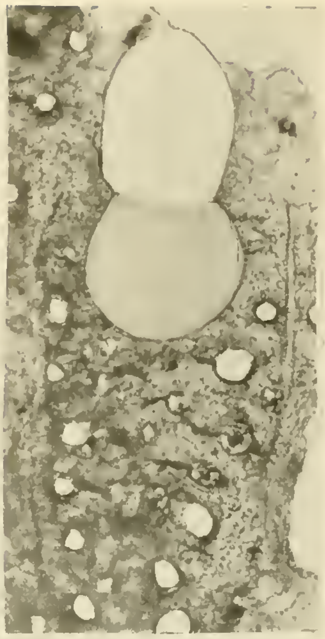
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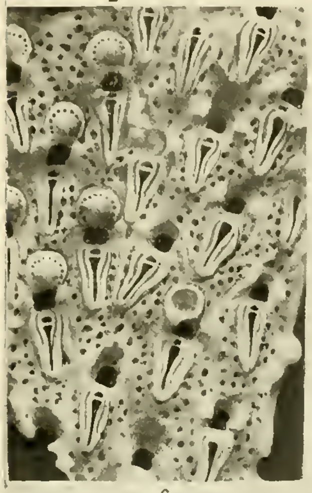
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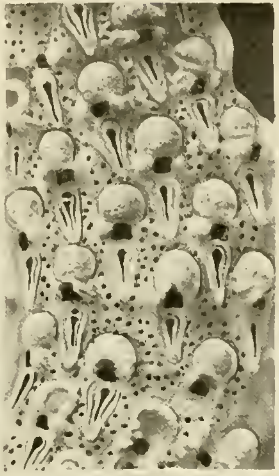
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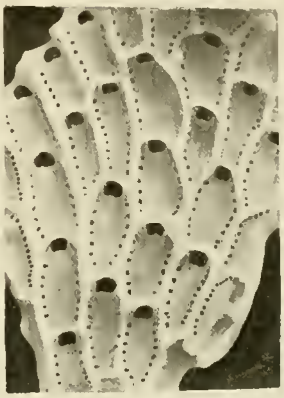
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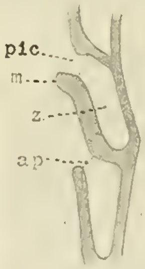

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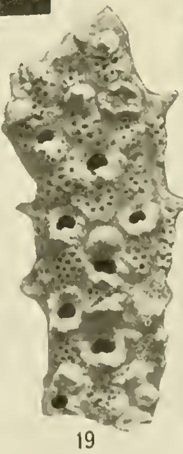
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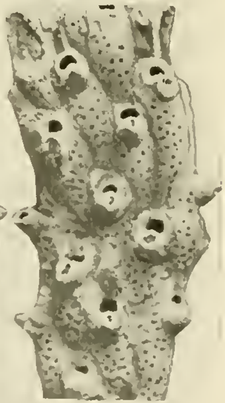
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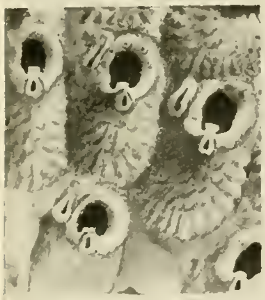
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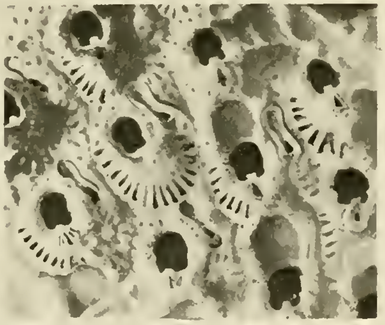
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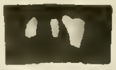
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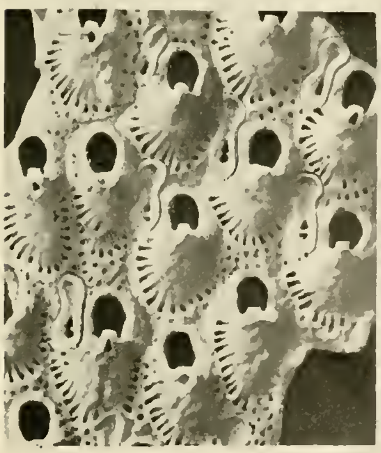
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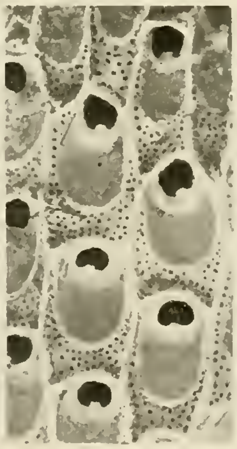
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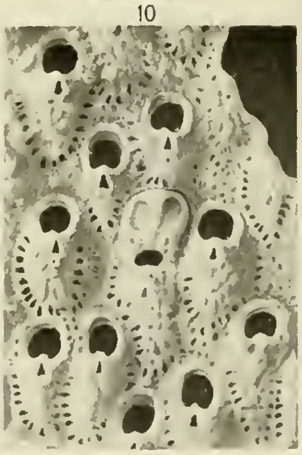
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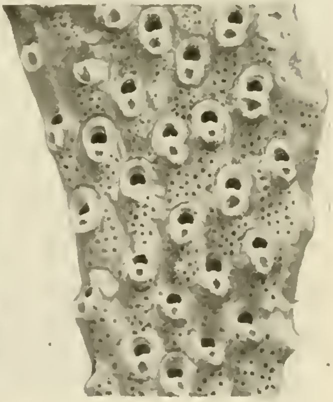
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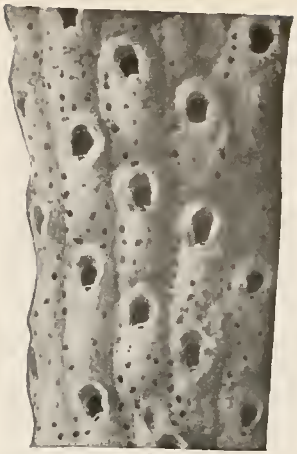
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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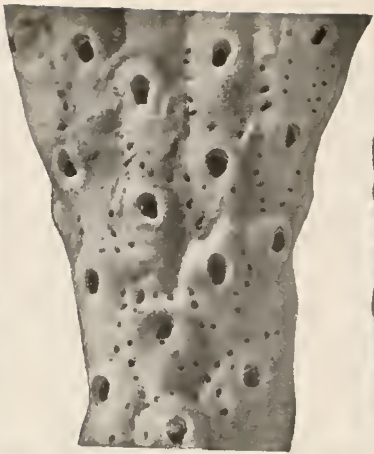
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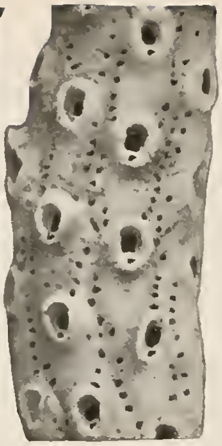
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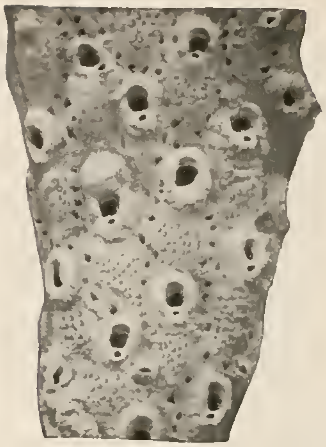
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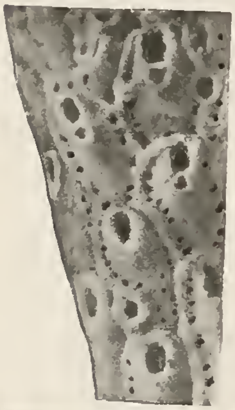
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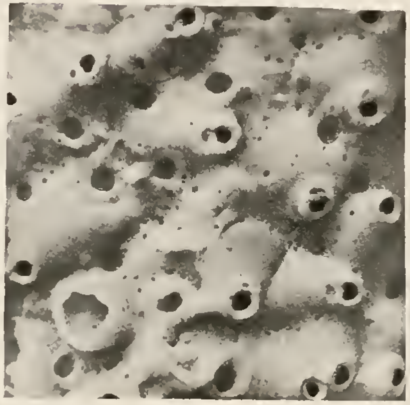
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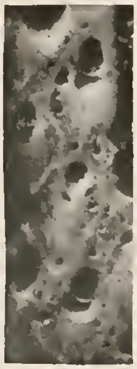
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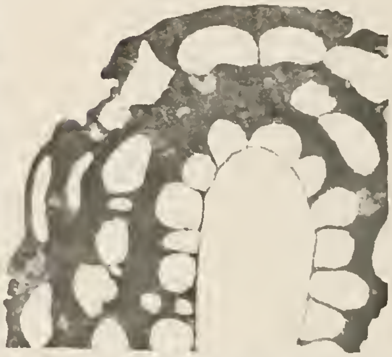
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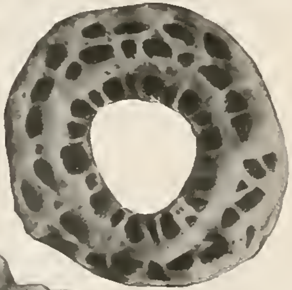
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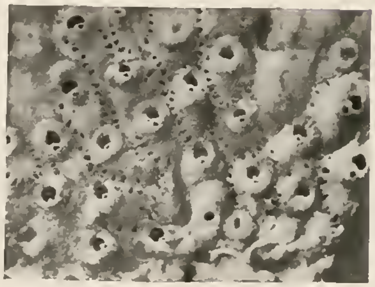
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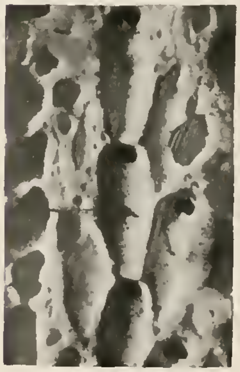
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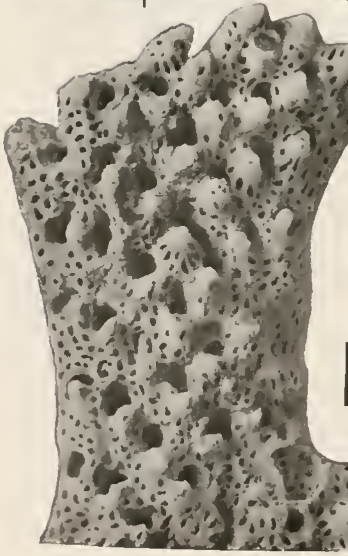
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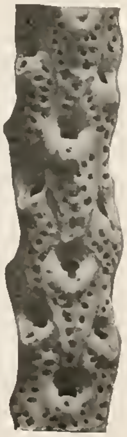
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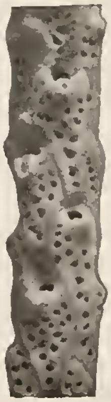
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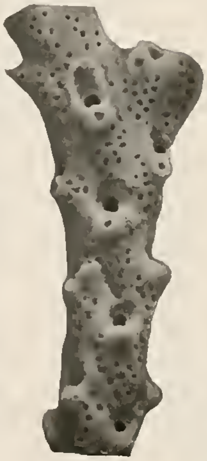
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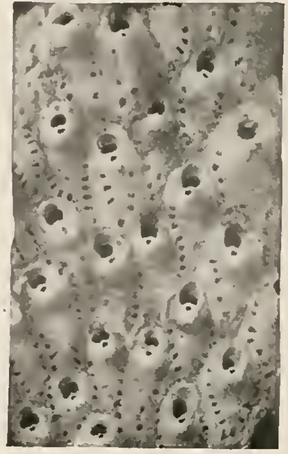
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VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 94.

FIGS. 1–11. *Smittina tubulata* Gabb and Horn. 1862 (p. 470).

1. Five of the hollow, cylindrical zoaria, natural size, showing variations in form
2. Portion of another zoarium, × 20, with the median avicularia visible.
3. Usual aspect of the zooecia, × 20, with scattered areolar pores.
4. Surface of a young zoarium, × 20. The areolae about each zooecium are distinctly developed.
5. A branch, × 20, showing median avicularia, one zooecium with ovicell and the granulations of the pleurocyst.
6. Strongly calcified specimen, × 20, showing zooecia separated by a salient ridge.
7. Surface of a plurilamellar zoarium, × 20. The zooecia are wide and arranged irregularly.
8. Interior of frontal, × 20, with areolar pores and median avicularia visible.
9. Transverse thin section of a plurilamellar zoarium, × 20. This and figure 8 show the thickness of the zooecial frontal.
10. Interior of frontal, × 20, where the lyrule is scarcely visible.
11. Transverse section of a plurilamellar zoarium, × 10.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64302, U.S.N.M.

FIGS. 12, 13. *Rorella compacta*, new species (p. 492).

12. Fragment of the bilamellar zoarium, natural size.
13. Surface of the same, × 20. The short, broad umbo is characteristic.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64303, U.S.N.M.

FIGS. 14–17. *Porella cylindrica*, new species (p. 491).

14. Fragments of the free, cylindrical zoarium, natural size.

15, 16. Two fragments, × 20, with the structure of the tremocyst plainly visible. The front view is shown in figure 15 and the profile view in figure 16.

17. Surface of a bifurcating zoarium, × 20, showing the large, median avicularium and one zooecium with broken ovicell.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64304, U.S.N.M.

FIG. 18. *Umbonula ceratomorpha* Reuss, 1847 (p. 495).

Surface of the bilamellar zoarium, × 20.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64305, U.S.N.M.

FIG. 19. *Umbonula miser*, new species (p. 494).

Portion of the type-specimen, × 20.

Vicksburgian (Marianna limestone): Salt Mountain, five miles south of Jackson, Alabama.

Cat. No. 64306, U.S.N.M.

Plate 95.

Figs. 1–9. *Smittina pupa*, new species (p. 470).

1. Fragments of the hollow, subcylindrical zoarium, natural size.
2. A bifurcating zoarium, × 20. A frequent occurrence, in which the avicularia are salient and replace the tremopores.
3. Another specimen, × 20, with several ovicelled zooecia.
4. An example, × 20, with thick peristome and quite prominent avicularia and rare areolae.
5. Branching zoarium, × 20, exhibiting a frequent aspect of the species. Some of the avicularia preserve the pivot.
6. Surface of fragment, × 20, showing the oblique semilunar apertura at the bottom of the peristomie.
7. Zooecia with median avicularium preserved, × 20. One of the zooecia is calcified.
8. Longitudinal section of a branch, × 20. The dorsal of the zooecia is shown in the middle, and on each side is a section illustrating the internal structure.
9. Cross section of a branch, × 10.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64307, U.S.N.M.

Figs. 10–21. *Porcella crassoparies*, new species (p. 490).

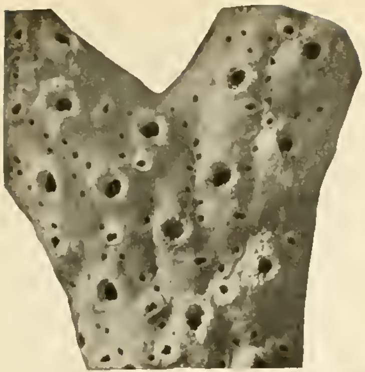
10. Four examples of the hollow, cylindrical, unilamellar zoarium, natural size.
11. Ovicelled zooecia, × 20.
12. Young zooecia, × 20, some of which have raised margins. The avicularia are quite visible.
13. Old zooecia, × 20, exhibiting the usual aspect, with the avicularia almost invisible.
14. Surface of an old zoarium, × 20. The avicularia are little visible and the zooecia appear larger.

15, 16. Two longitudinal sections, × 10. Both the internal structure of the zooecia and the character of the dorsal are shown.

17. Sketch of a longitudinal section through several zooecia, × 20.
    ap, apertura; *ol*, olocyst; *pi*, peristomie; *pic*, peristomice; *tr*, tremocyst; *tu*, tubule; *z*, zooecium.
18. Interior of zooecial frontal, × 20, exhibiting thinness of zooecial lateral walls.
19. Interior of zooecial frontal, × 20, illustrating the small pores perforating the olocyst.
20. Tangential thin section, × 100. The section cuts the tremocyst in the upper half and the olocyst in the lower.
21. Transverse section, × 20, showing the thickness of the frontal.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64308, U.S.N.M.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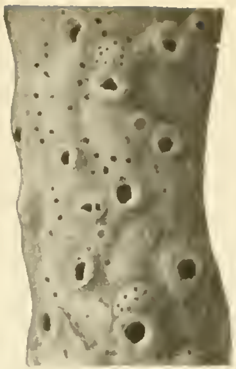
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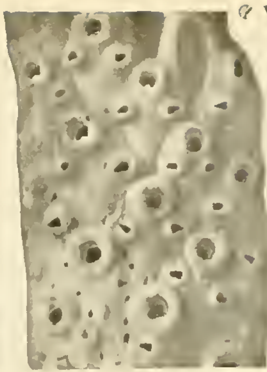
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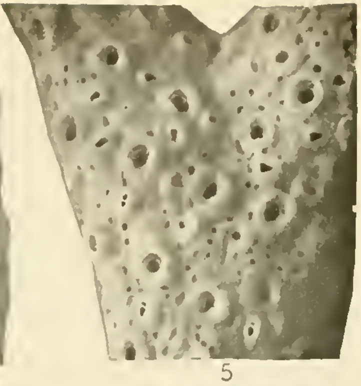
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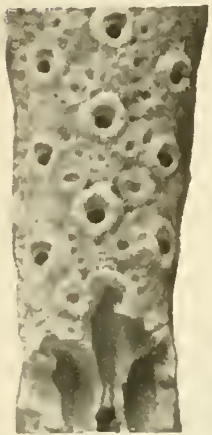
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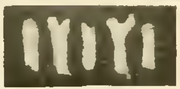
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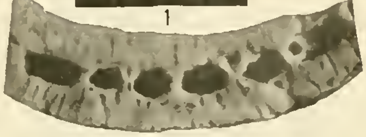
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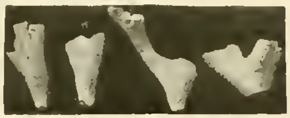
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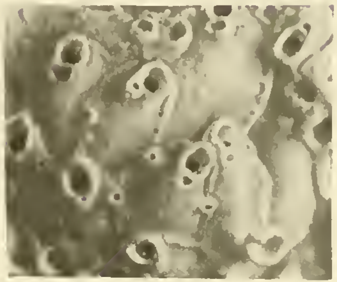
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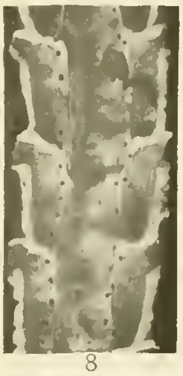
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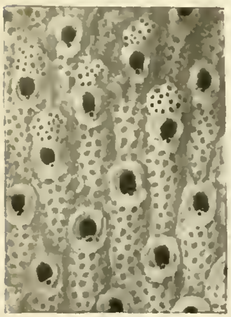
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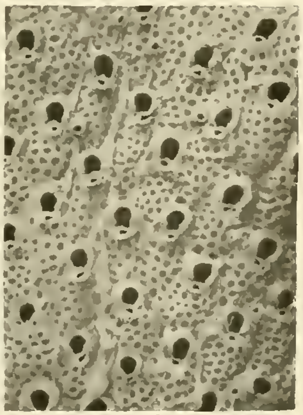
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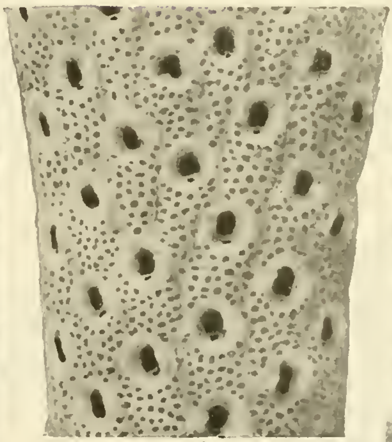
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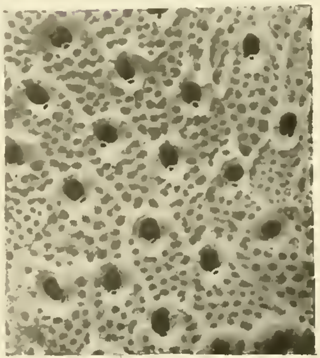
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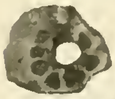
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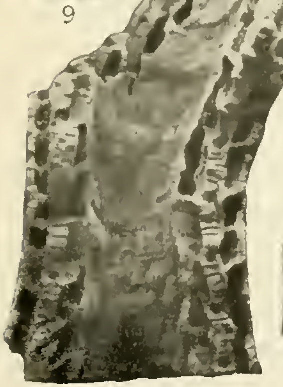
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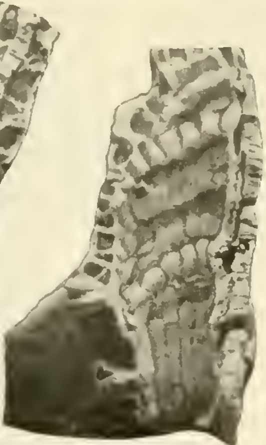
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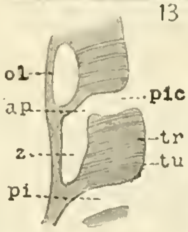
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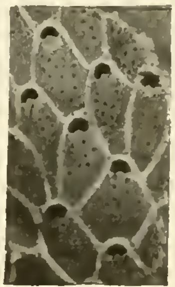
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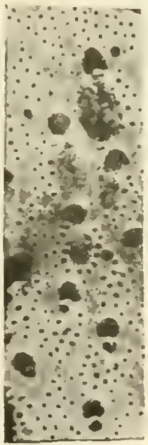
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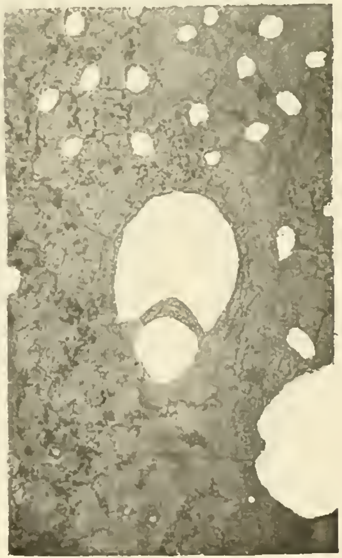
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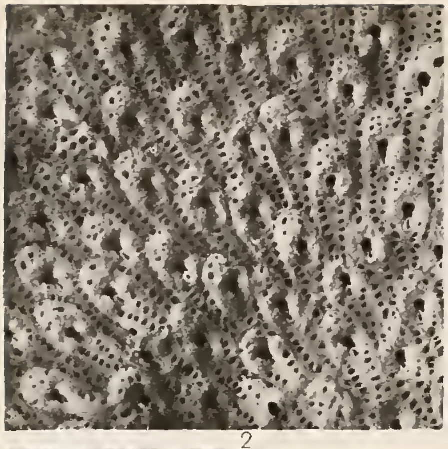
Vicksburgian Cheilostomatous Bryozoa.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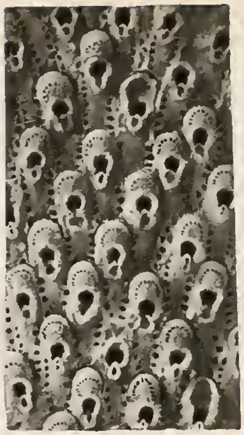
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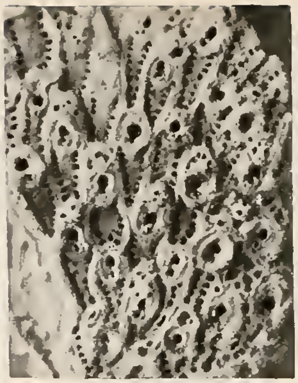
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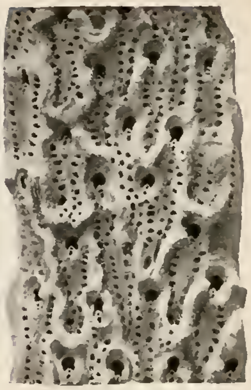
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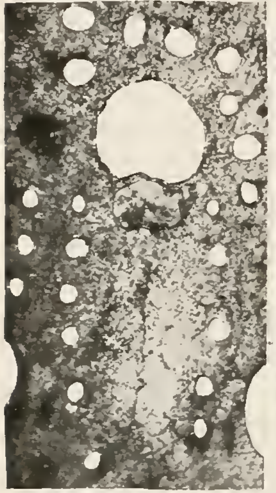
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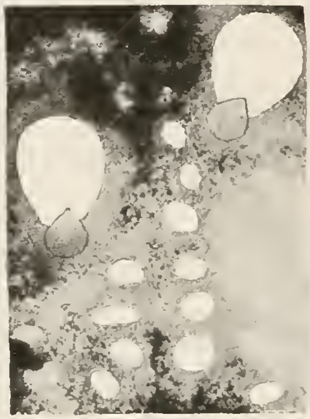
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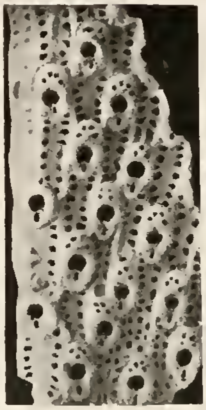
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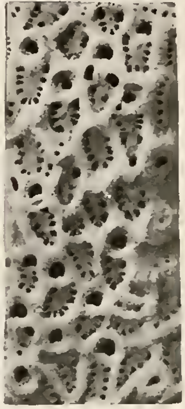
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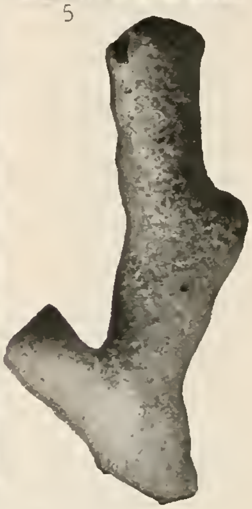
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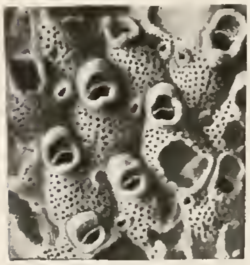
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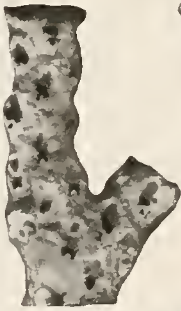
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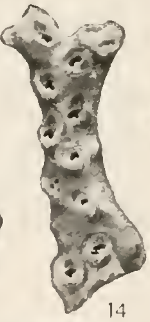
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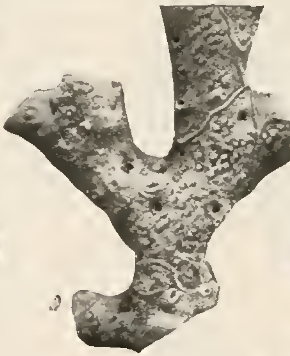
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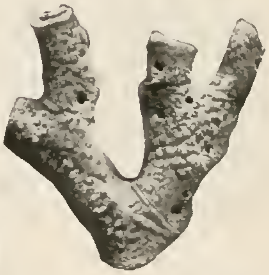
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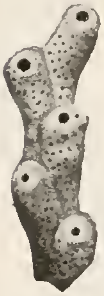
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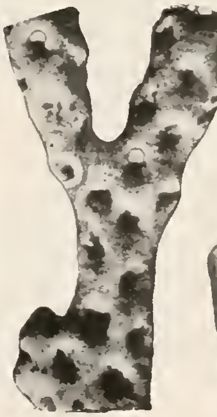
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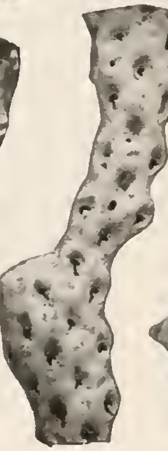
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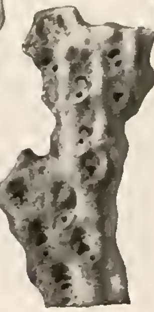
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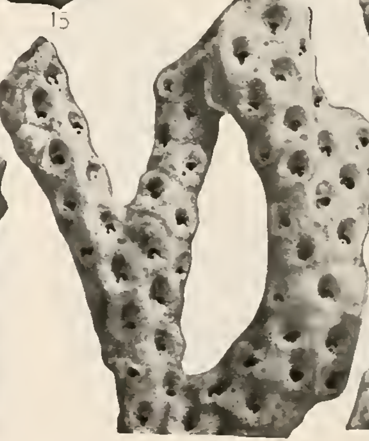
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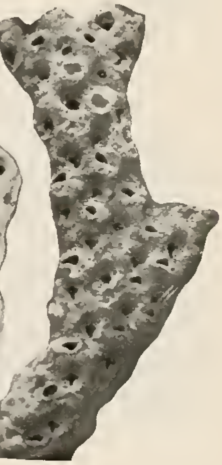
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 96.

FIGS. 1–9. *Smittina reticuloides*, new species (p. 467).

1. Four fragments of the bilamellar zoarium, natural size, showing variations in width.
2. Surface of a broad zoarium, × 20, exhibiting the usual aspect of the species.
3. A well-preserved zoarium, with the ovicells and median avicularia well shown. The pores of the ovicell area are very small.
4. A specimen, × 20, with intense pleurocystal calcification.

5, 6. Two other examples, × 20, in which the intense calcification has left salient ridges bounding the zooecia.

7. A fragment, × 20, showing another aspect of the ovicelled zooecia. The pores of the ovicell are very large.
8. Tangential thin section, × 100, at the level of the olocyst.
9. Another tangential thin section, × 100, passing through the interareolar costules.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64309, U.S.N.M.

FIG. 10. *Phylactella cribrata*, new species (p. 575).

Surface of the incrusting type-specimen, × 20.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64310, U.S.N.M.

FIG. 11. *Catenicella subseptentrionalis* Canu and Bassler, 1917 (p. 550).

The type-specimen, × 25.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

Cat. No. 62601, U.S.N.M.

FIGS. 12–22. *Retepora laciniosa*, new species (p. 504).

12. Fragments of the free, branching, nonreticulated zoarium, natural size.
13. View of the frontal, × 20.
14. A young specimen, × 20, showing the lateral rimule-spiramen.
15. View of the dorsal surface, × 20.
16. A smooth dorsal, × 20.
17. Dorsal surface, × 20, with tubular projections developed.
18. Frontal of specimen, × 20, showing ovicells.
19. Frontal of another example, × 20, with frontal avicularia.
20. Another view of the frontal, × 20, with the labial avicularium much developed.
21. A frequently bifurcated specimen, × 20. The rimule-spiramen and frontal tuberosity are exhibited.
22. An example, × 20, in which large frontal avicularia are present.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama (figs. 15, 21, 22); west bank of Conecuh River, Escambia County, Alabama (figs. 13, 14, 17, 19, 20), and Salt Mountain, 5 miles south of Jackson, Alabama (figs. 16, 18).

Cat. Nos. 64311, 64312, 64313, U.S.N.M.

PLATE 97.

FIGS. 1–16. *Tubucellaria vicksburgica*, new species (p. 544).

1. A restoration of the zoarium, natural size.
2. Segment, × 10, showing prominent processes perforated by two large pores, where the next segment was attached.

3, 4. Young zooecia, × 20, with salient peristomes.

5. Segment with young zooecia, × 20. The peristome is hardly salient. The process has two openings.

6, 7. A mature segment, × 20 and × 10. The frontal, peristomiale and ascopore are well marked.

8. An old segment, × 20, in which the frontal is clearly separated from the peristomiale by a small groove. Two processes with 4 pores for union of the segments are visible. The peristomie is much thickened.
9. Broken segment showing the transverse section, × 20.
10. Extremity of a segment, × 20.
11. Base of an adult segment, × 20.
12. A segment, × 20, exhibiting the unusual occurrence of three pores to a process.
13. Longitudinal section and view of the interior, × 20. The thin basal olocyst has small perforations which give rise to the wide tubules.
14. An old segment, × 20, exhibiting large frontal pores and well developed ascopores.
15. An old branching segment without process, × 20, with very thick peristome and zooecia deformed by calcification.
16. Tangential thin section, × 100, showing the tremopores separated by a network.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

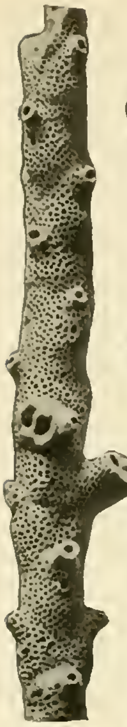
Cat. No. 64314, U.S.N.M.

FIGS. 17–21. *Meniscopora elliptica*, new species (p. 556).

17. Several fragments of the bifoliate zoarium, natural size.
18. A young example, × 20. The areolae and frontal pores are quite visible.
19. Surface of an older zoarium, × 20. The peristomes are thick and the frontal pores are well developed.
20. Surface of zooecia, × 20, with a pointed avicularium in the vicinity of the peristomice.
21. Interior of frontal, × 20, illustrating the true form of the apertura and zooecium.

Vicksburgian (Byram marl): One-fourth mile west of Woodward, Wayne County, Mississippi.

Cat. No. 64515, U.S.N.M.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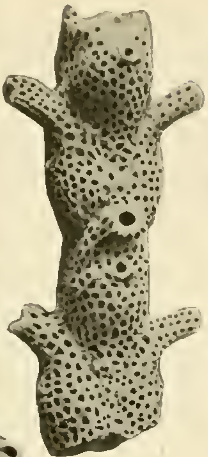
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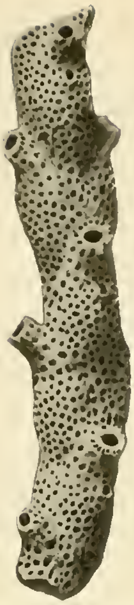
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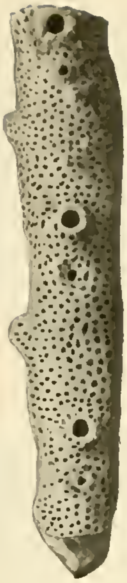
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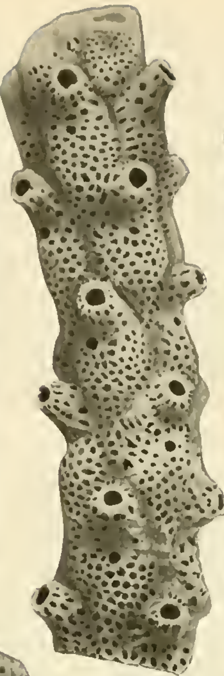
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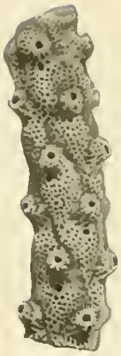
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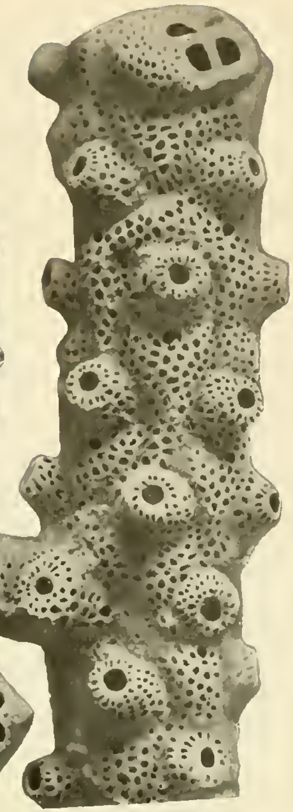
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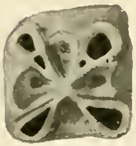
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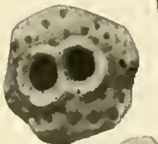
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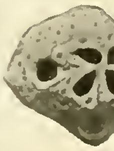
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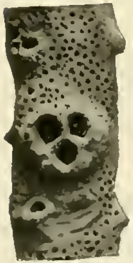
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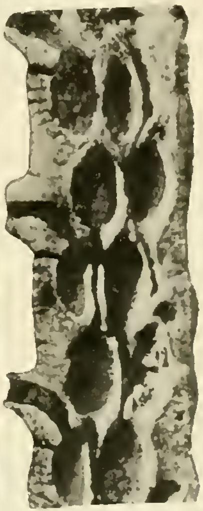
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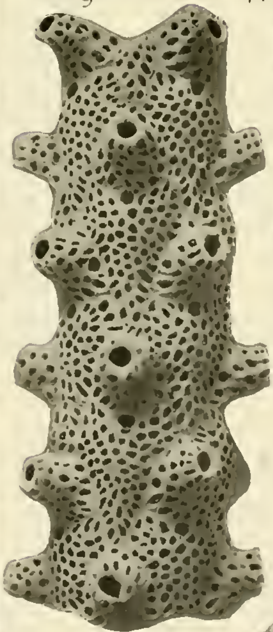
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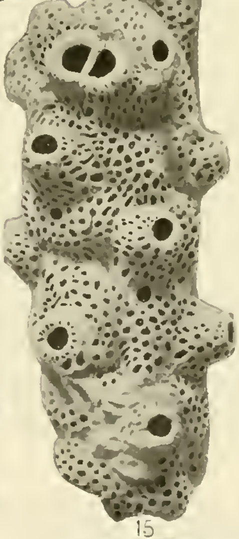
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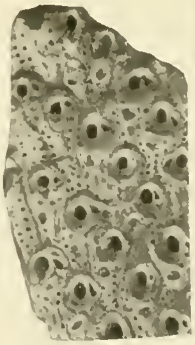
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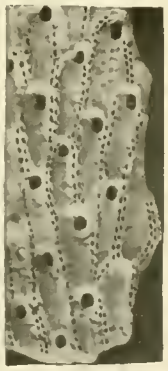
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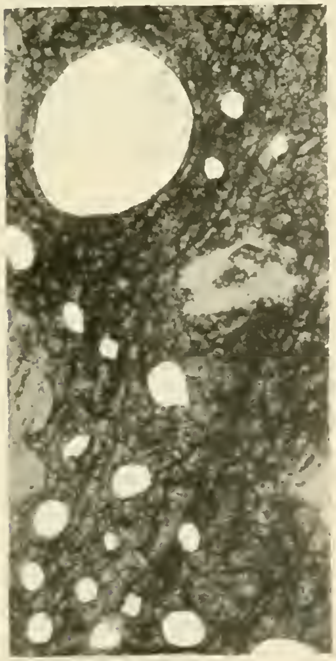
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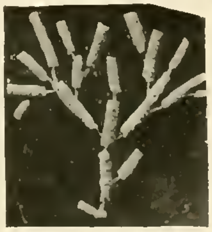
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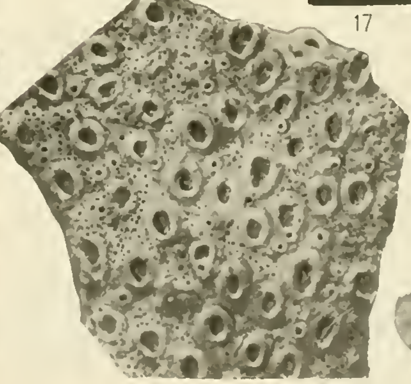
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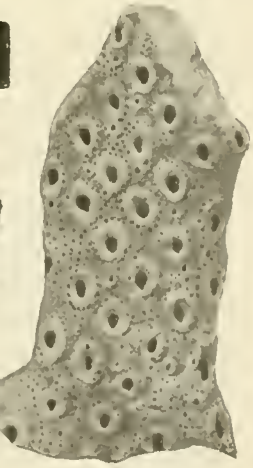
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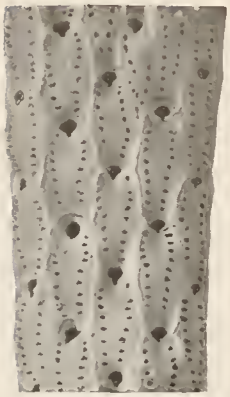
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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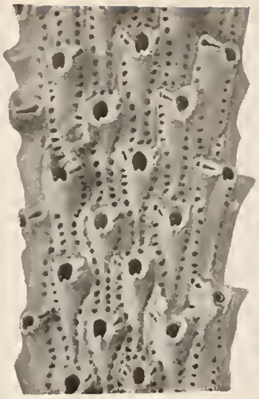
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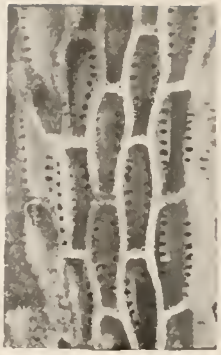
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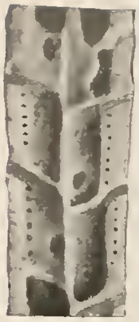
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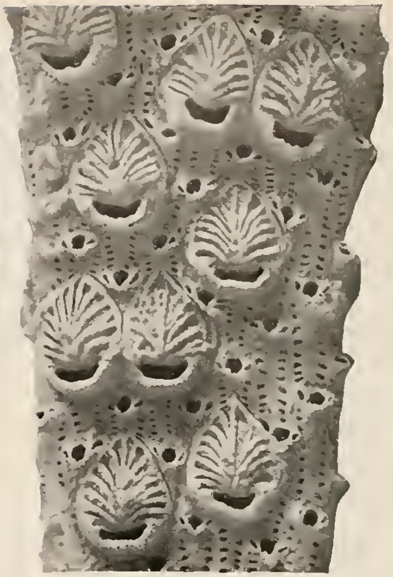
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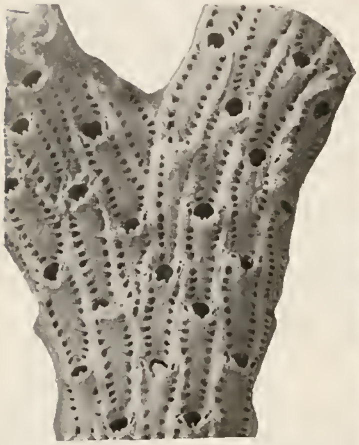
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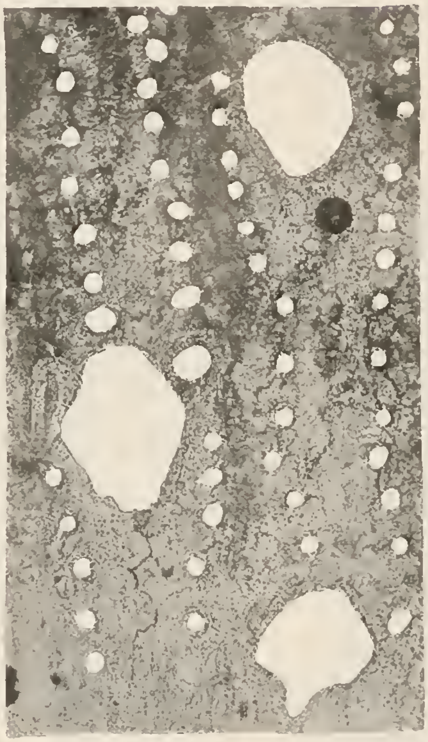
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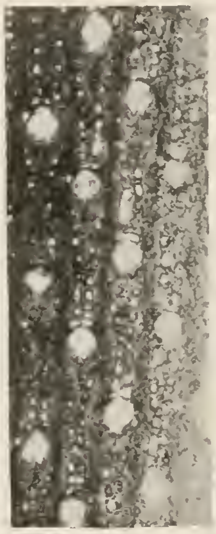
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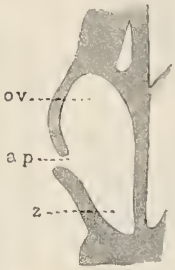

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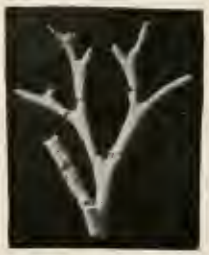
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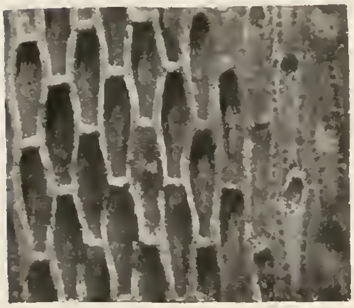
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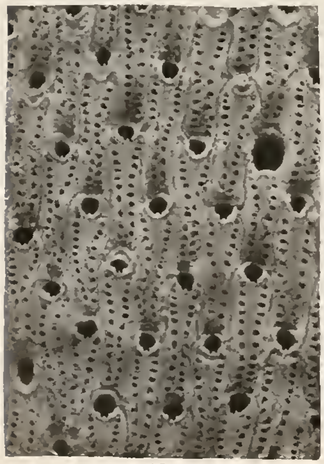
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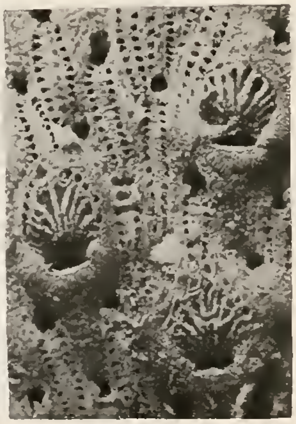
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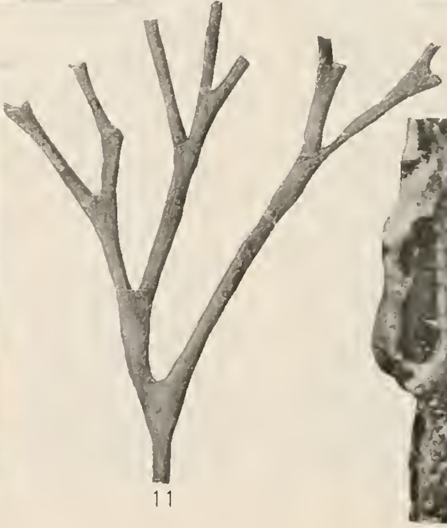
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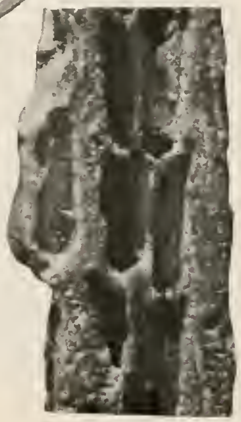
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 98.

FIGS. 1–10. *Metrarabdotos moniliferum* Milne-Edwards, 1836 (p. 533).

1. Restoration of the ramose zoarium, natural size.
2. Surface of the ordinary zooecia without avicularia, × 20, bordered by ridges.
3. Another fragment, × 20, showing convex zooecia with lyrula and avicularia.
4. A branching fragment, × 20, exhibiting convex and marginated zooecia with and without lyrula and avicularia.
5. A branch, showing nine ovicelled zooecia, × 20. The large orifice of the ovicelled zooecia is in contrast with the small aperture of the ordinary ones.
6. Interior of the frontal of the ordinary zooecia, × 20. The areolae are quite visible.
7. Longitudinal section, × 20. through the ordinary zooecia.
8. Tangential thin section through the frontal, × 25. The sinus and lyrula of the aperture and the areolae are plainly visible.
9. Portion of the same section, × 100, showing the microscopic structure in more detail.
10. Sketch of a longitudinal section, × 20 cutting an ovicelled zooecium.

ap, apertura; *ov*, ovicell; *z*, zooecium.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64316, U.S.N.M.

FIGS. 11–15. *Metrarabdotos grande*, new species (p. 537).

11. A restoration of the free dichotomously branching zoarium, natural size.
12. Ordinary zooecia, × 20. Oral avicularia are absent.
13. Ovicelled zooecia, × 20.
14. Interior of the ordinary zooecia, × 20, showing a thick frontal in which the areolae are not visible.
15. Vertical section, × 20, exhibiting one of the partitioned tuberosities serving perhaps in the hydrostatic system.

Vicksburgian (Marianna limestone): Three miles southeast of Vosburg, Jasper County, Mississippi.

Cat. No. 64317, U.S.N.M.

PLATE 99.

FIGS. 1–10. *Adeonellopsis galeata*, new species (p. 568).

1. Three fragmentary zoaria, natural size, including one almost complete example.
2. Young zooecia, × 20, exhibiting the specific characters.
3. Another zoarium, × 20, showing development of total area. Two, and sometimes three, pores may be noted on the distal thickening of the peristome.
4. A more advanced stage, × 20, with the median avicularia more elongated and imbedded.
5. Surface of a zoarium, × 20, in which the total area includes the apertura, cribriform area, and median avicularium.
6. Surface of old zooecia near the base of a frond, × 20, where the distal thickening of the peristome disappears.
7. Surface of an old zoarium, × 20, in which the adventitious avicularia are still visible.

8, 9. Tangential thin section, × 25. and a small portion, × 100, exhibiting the large pleurocystal elements.

10. Sketch of longitudinal section, × 50, illustrating structure.

ap, apertura; *av. f*, frontal avicularium; *av. l*. lateral avicularium; *l. p*, perforated lamina; *p*, pore; *pic*, peristomice; *p. h*, false hypostege; *z*, zooecium.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64318, U.S.N.M.

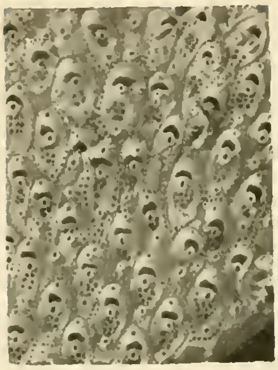
FIGS. 11–18. *Adeonellopsis grandis*, new species (p. 568).

11. Four zoaria, natural size, almost complete.
12. Surface of zoarium, × 20, with gonoecia showing the cribriform area and the peristomial avicularium well developed.
13. Broad zoarium, × 20, exhibiting numerous areolae, frontal avicularia and the peristomial avicularia deeply imbedded.
14. Young zooecia, × 20, with the ascopore visible below the peristomial avicularium.
15. Surface of young zoarium, × 20, with prominent peristomial avicularia.
16. Thin transverse section, × 20. The zooecia are thick and the pleurocystal elements are grouped transversally.

17, 18. Tangential thin section through the frontal, × 20, and a portion, × 100. The relations of the apertura, peristomial avicularium, ascopore, and areolae are illustrated.

Vicksburgian ("Chimney rock" of Marianna limestone): One mile north of Monroeville, Alabama.

Cat. No. 64319, U.S.N.M.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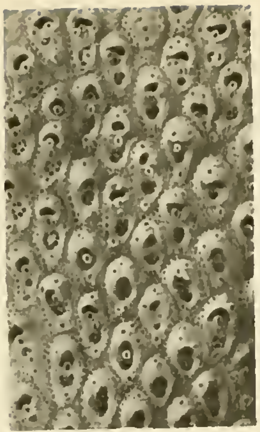
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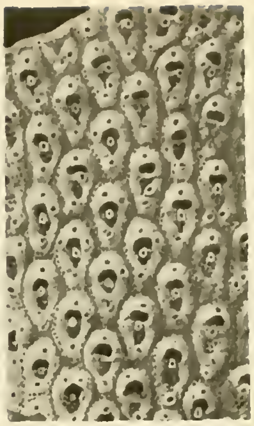
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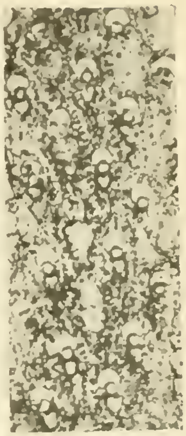
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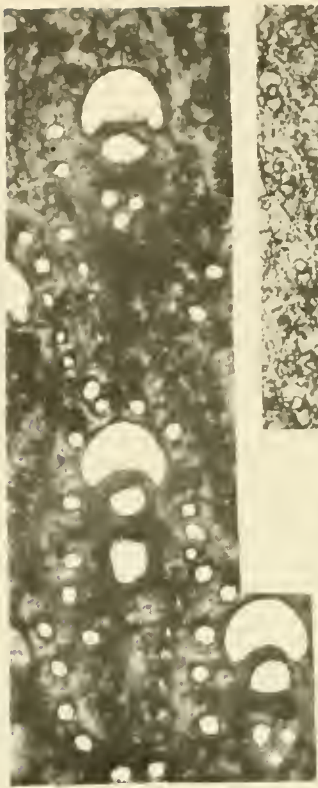
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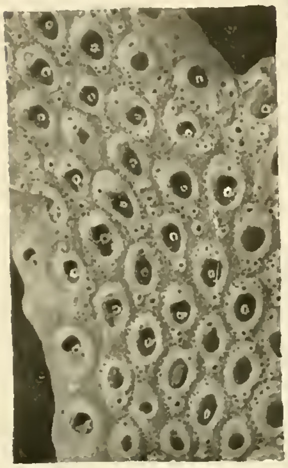
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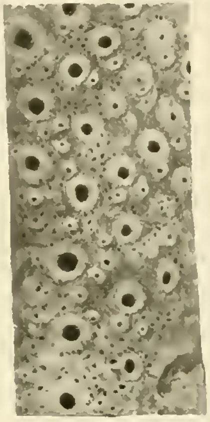
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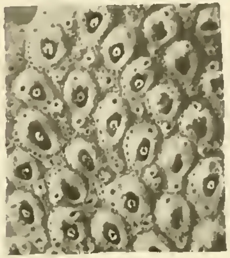
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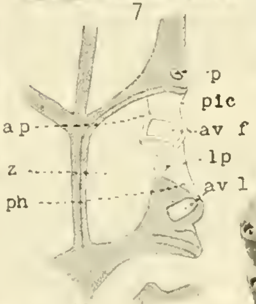
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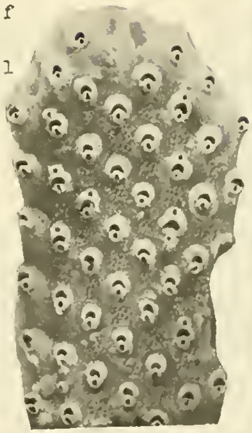
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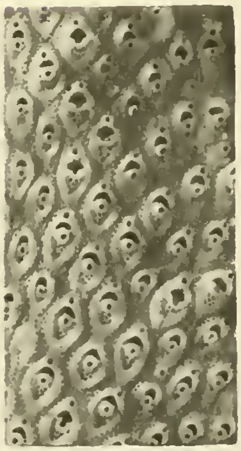
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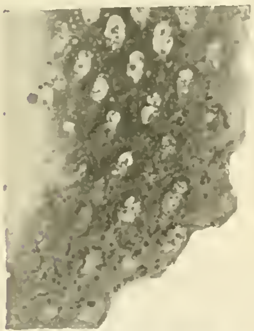
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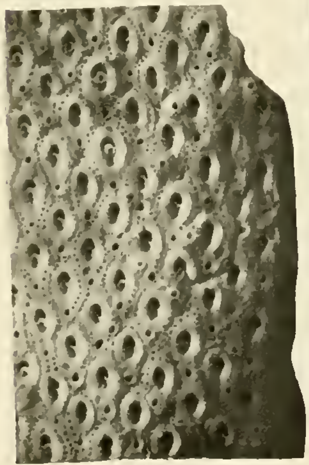
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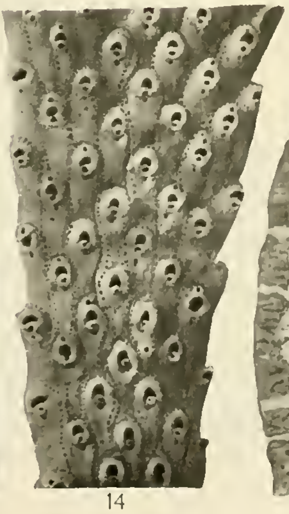
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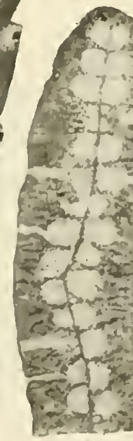
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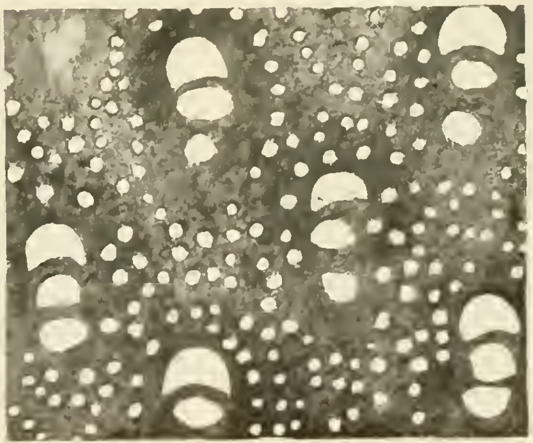
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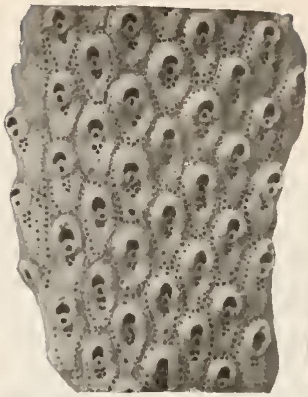
Vicksburgian Cheilostomatous Bryozoa.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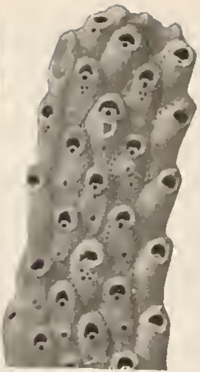
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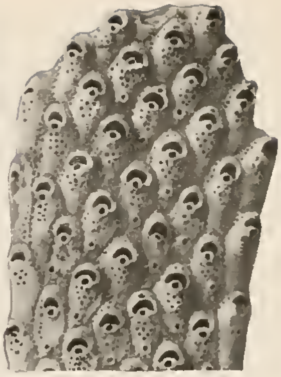
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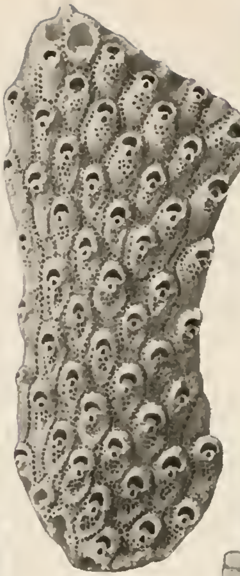
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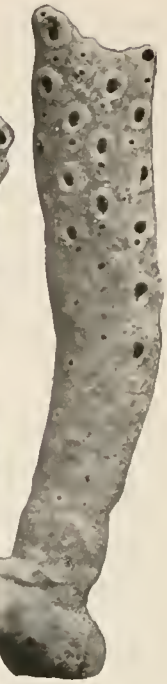
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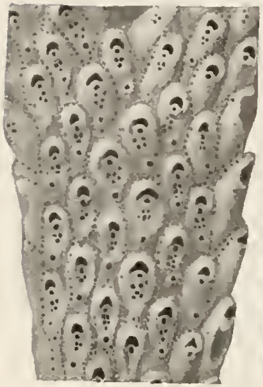
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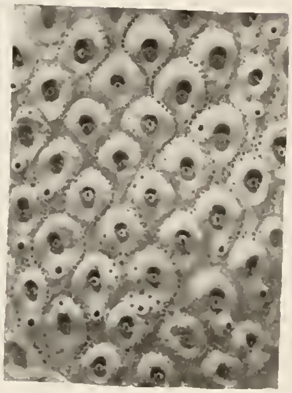
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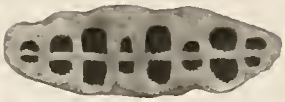
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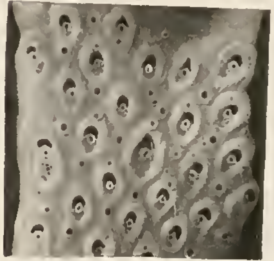
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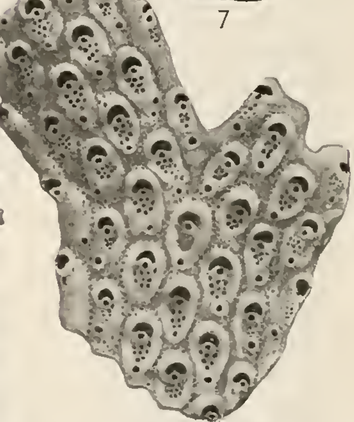
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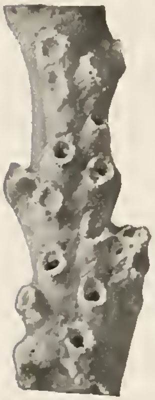
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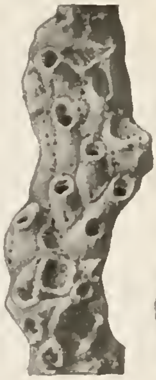
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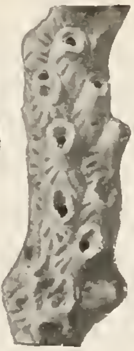
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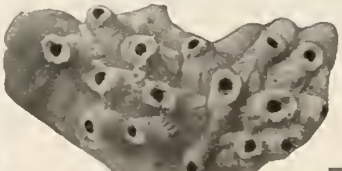
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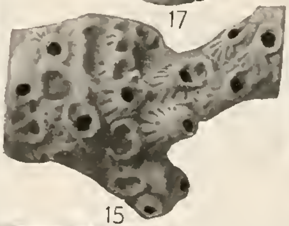
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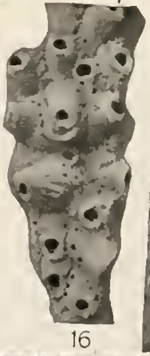
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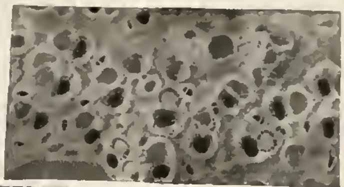
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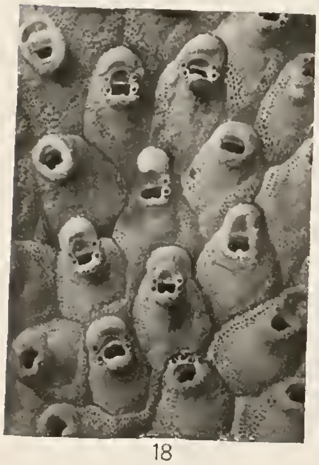
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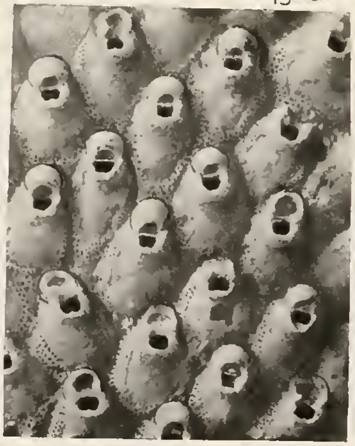
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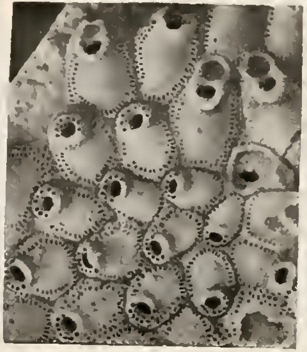
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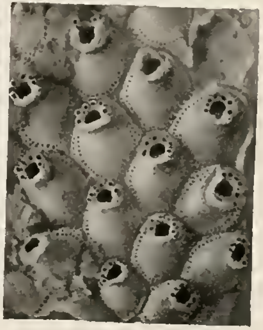
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Vicksburgian Cheilostomatous Bryozoa.

PLATE 100.

FIGS. 1–11. *Adeonellopsis cyclops*, new species (p. 570).

1. A complete zoarium, natural size, reconstructed from fragments.
   Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
   Cat. No. 64320, U.S.N.M.
2. Surface of mature zoarium, × 20, with large cribriform area and beginning of development of total area.
3. Branch of young zoarium, × 20, showing the long marginal zooecia without distal or median avicularia.
4. Portion of a well-preserved fragment, × 20. The marginal zooecia are long and have a small cribriform area while the median zooecia are shorter and have a larger area.
5. Transverse fracture of branch, × 20.
6. Surface, × 20, of a very young zoarium showing beginning of development of total area and large areolar pores.
7. Basal portion of a zoarium, × 20. At the base itself the apertures are closed and only the avicularia and areolae are present.
8. A mature specimen, × 20, with total area in process of development.
9. An old zoarium, × 20, in which the total area is well developed and its peristome is greatly thickened.
10. Surface of specimen, × 20, with avicularium only visible at base of total area.
11. A fragment, × 20, with total area developed, but avicularia and cribriform area still plainly visible.
    Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
    Cat. No. 64321, U.S.N.M.

FIGS. 12–17. *Perigastrella costifera*, new species (p. 584).

12. A complete zoarium, × 20, incrusting a cyclostome bryozoan. The apertura is visible at the bottom of the peristomie and the zooecia are smooth.
13. Zooecia, × 20, exhibiting areolae.
14. Another zoarium, × 20, with interareolar costules and long peristomie well developed.
15. Zooecia with ovicell, × 20, the latter being broken.
16. Portion of a zoarium, × 20, exhibiting the ancestrula and also with some zooecia seen in profile.
17. Zooecia, × 20, showing the small ancestrula.
    Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
    Cat. No. 64322, U.S.N.M.

FIGS. 18–21. *Perigastrella plana*, new species (p. 583).

18. Surface of the incrusting zoarium, × 20. This specimen shows the old condition in which the well developed pleurocyst appears as a collar about the zooecia. The ovicell is seen to be composed of two layers, the upper one being a pleurocyst.
    Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
    Cat. No. 64323, U.S.N.M.
19. Another old zoarium, × 20, with ovicelled zooecia and pleurocyst well developed.
20. A young zoarium in the vicinity of the ancestrula.
    Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
    Cat. No. 64324, U.S.N.M.
21. Another young zoarium, × 20, well preserved and showing the complete peristome, spines, and areolae.
    Vicksburgian (Byram marl): Byram, Mississippi.
    Cat. No. 64325, U.S.N.M.

FIG. 22. *Costazzia antiqua*, new species (p. 604).

Surface of the poorly preserved type-specimen, × 20. The ovicell with its flat area and bordering pores is to be noted.
Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 64326, U.S.N.M.

PLATE 101.

FIGS. 1–11. *Kleidionella verrucosa*, new species (p. 621). (See also plate 102.)

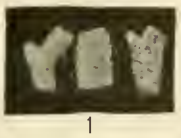
1. Several fragments of the bifoliate zoarium, natural size, consisting mainly of oriented zooecia.
2. A group of more robust fragments, natural size, composed of layer upon layer of cumulate zooecia.
3. A specimen shown in figure 1, × 10. This example is bilamellar and exhibits the oriented zooecia mainly.
4. More magnified view of the same, × 20.
5. Surface of the second specimen shown in figure 1, × 20. The oriented zooecia bear numerous small avicularia with pivot and are ovicelled.
6. The third specimen of figure 1, × 10. A layer of cumulate zooecia has started development over the oriented zooecia.
7. Surface of the same specimen, × 20, showing an incomplete zooecium.
8. Surface of another zoarium, × 20, illustrating cumulate zooecia and small avicularia with pivot.

9, 10. Portions of two zoaria, × 20, with large interzooecial avicularia as well as the small form.

11. Cross section, × 10, of the bilamellar zoarium composed only of oriented zooecia.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64327, U.S.N.M.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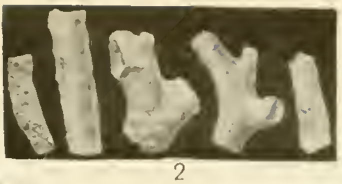
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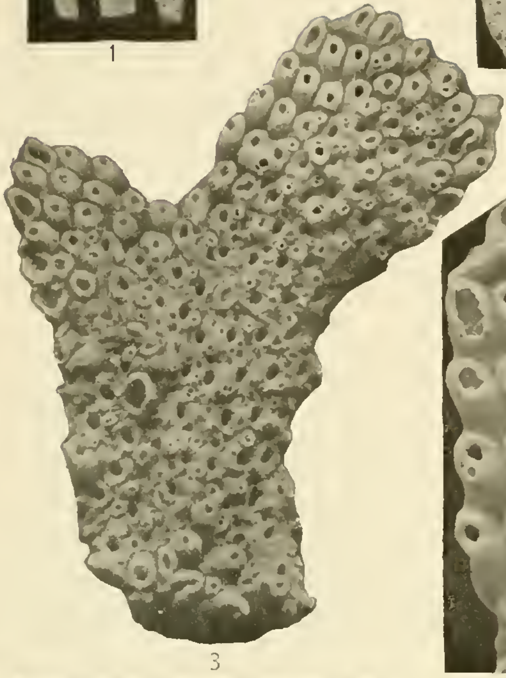
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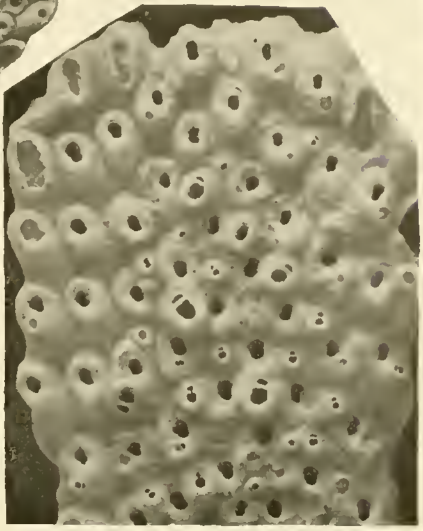
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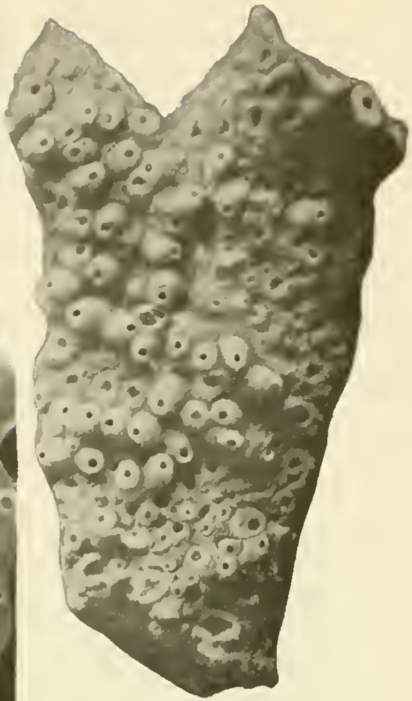
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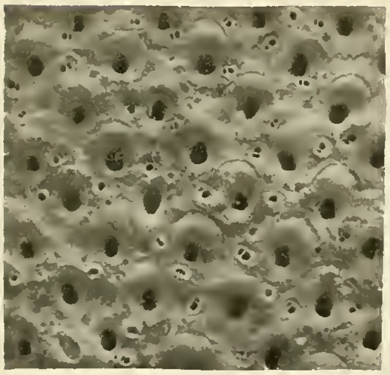
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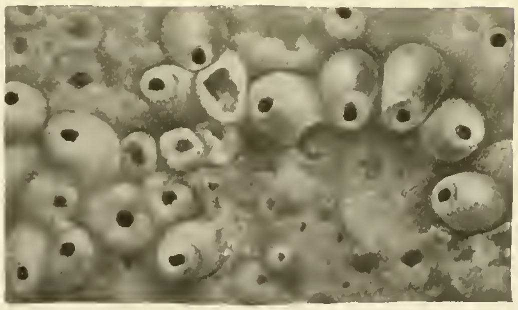
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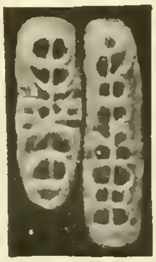
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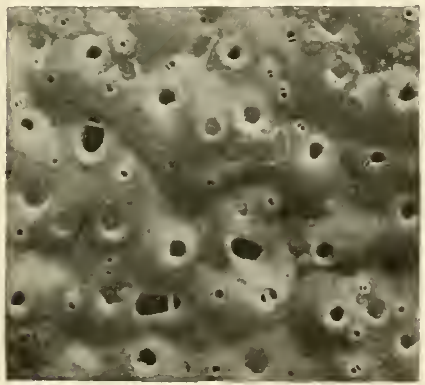
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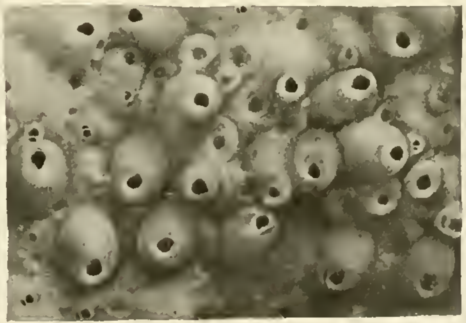
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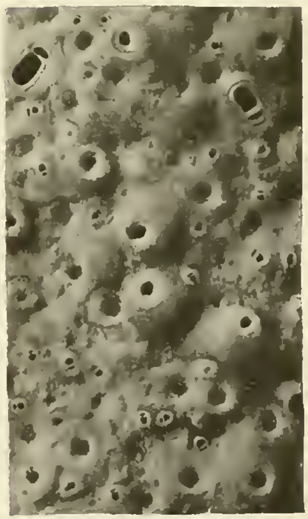
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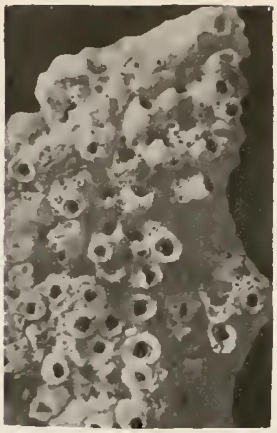
VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.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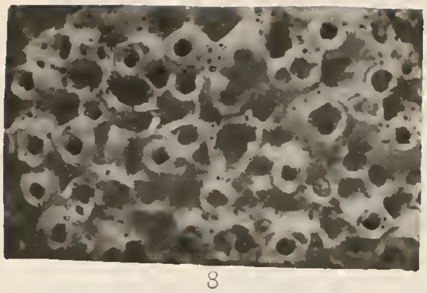
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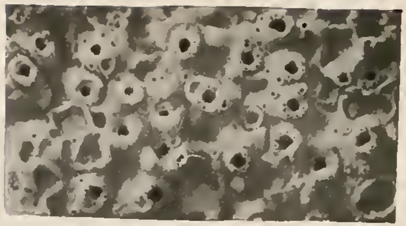
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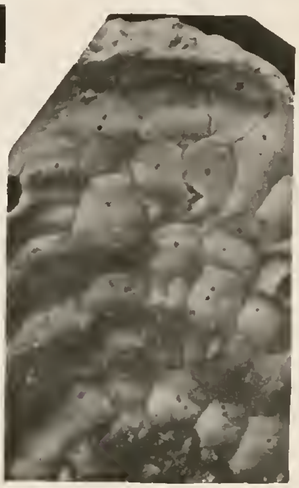
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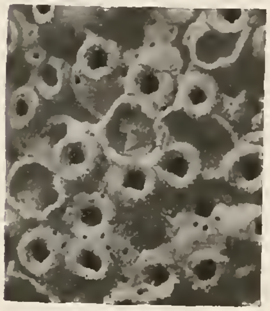
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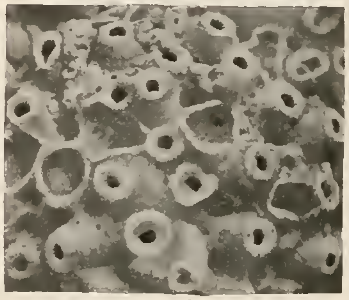
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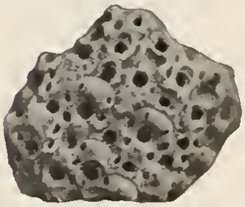
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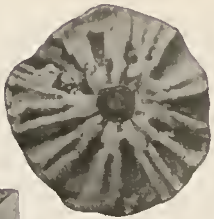
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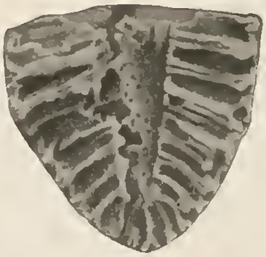
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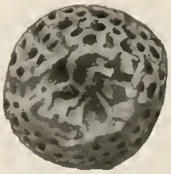
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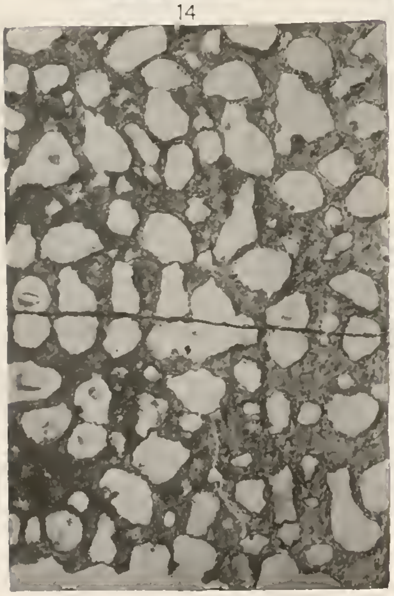
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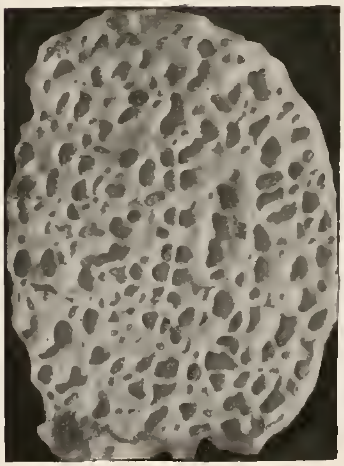
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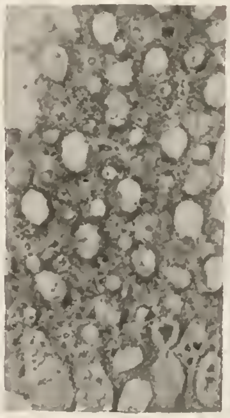
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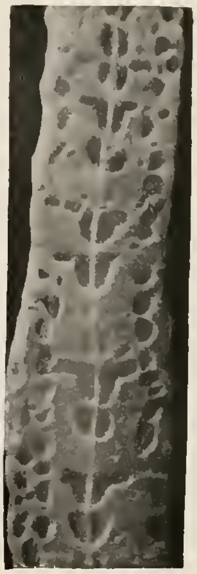
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VICKSBURGIAN CHEILOSTOMATOUS BRYOZOA.

PLATE 102.

FIGS. 1–4. *Kleidionella verrucosa*, new species (p. 621). (See also plate 101.)

1. A transverse thin section, × 20, illustrating same features as in figure 2.
2. Transverse section of a multilamellar frond, × 10. The two layers of oriented zooecia are visible in the middle, while the rest of the zoarium is composed of one layer upon another of cumulate zooecia.
3. Tangential section, × 20, showing that the zooecial walls are formed of dense olocystal elements.
4. Longitudinal section, × 10. The oriented zooecia in the middle and several layers of cumulate zooecia piled up on each side are to be noted.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64327, U.S.N.M.

FIGS. 5, 6. *Holoporella peristomaria*, new species (p. 611).

5. Zoarium, natural size, a small irregular mass.
6. Surface of the same, × 20, showing the characteristic development of the peristomie.

Vicksburgian (Byram marl): Byram, Mississippi.

Cat. No. 64328, U.S.N.M.

FIGS. 7–9. *Holoporella seposita*, new species (p. 610).

7. The free, globular zoarium, natural size.
8. Surface of zoarium, × 20, showing usual aspect. Incomplete zooecia are abundant and the oral avicularia are broken and represented by a cicatrix.
9. Surface, × 20, of a zoarium which has stopped growth upon completion of the superficial zooecia. The spines and the avicularia are preserved.

Vicksburgian (Glendon member of Marianna limestone): West bank of Conecuh River, Escambia County, Alabama.

Cat. No. 64329, U.S.N.M.

FIGS. 10–13. *Holoporella discus*, new species (p. 612).

10. Four of the discoidal zoaria, natural size, showing both top and basal surfaces.
11. Celluliferous surface, × 20, exhibiting incomplete zooecia and areolae.
12. Basal surface of zoarium, × 20, showing arrangement of zooecia and the small perforating pore.
13. Another celluliferous surface, × 20, illustrating shape of the apertura.

Vicksburgian ("Chimney rock" of Marianna limestone): 1 mile north of Monroeville, Alabama.

Cat. No. 64330, U.S.N.M.

FIGS. 14–17. *Fedora pusilla*, new species (p. 624).

14. Surface of the small conical zoarium, × 20. Several ovicelled zooecia are present, with apertures larger than the unovicelled ones.
15. Dorsal side of a zoarium, × 20.
16. Longitudinal fracture, × 20, exhibiting the hollow interior.
17. Top view of the cone-shaped zoarium, × 20.

Vicksburgian (Byram marl): One-fourth mile west of Woodward, Wayne County, Mississippi.

Cat. No. 64331, U.S.N.M.

Plate 103.

(Figs. 9–13, 18, 19 are after Ulrich.)

Figs. 1–14. *Partretocycloecia dumosa* Ulrich, 1901 (p. 830).

1. Fragments of the free, hollow, branched zoarium, natural size.
2. Zoarial fragment, × 12, bearing an ovicell which is perforated by the tubes accompanied by mesopores.
3. Transverse section of a branch, × 12, cutting an ovicell.
4. Branched fragment, × 12, showing that the dichotomization has occurred in different planes.
5. Branched fragment, × 12, with nonsalient peristomes.

6, 7. Specimen with salient peristome, × 12 and × 25.

8. Transverse thin section, × 25.
9. A branch broken longitudinally, × 9, showing central cavity.
10. Small branch, × 9, showing two ovicells.
11. A specimen, × 20, showing an ovicell pierced by both the tubes and mesopores.
12. A broken ovicell, × 20, showing tubes passing through it.
13. Portion of the fractured end of a branch, × 20.
14. Longitudinal thin section, × 25. The solid portions are formed of firmatopores.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 65239 U.S.N.M.

Figs. 15–17. *Diplosolen compactum*, new species (p. 746).

15. Surface of the incrusting zoarium, × 12. Each tube is accompanied sometimes by several tubules.
16. Normal aspect of the zoarium, × 12.
17. Surface, × 25.

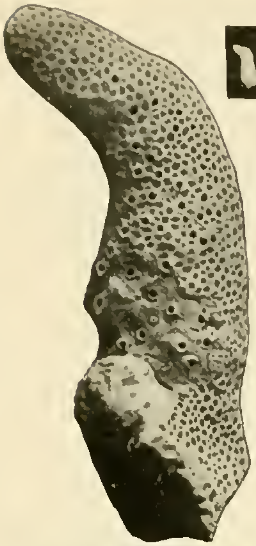
Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 65240, U.S.N.M.

Figs. 18–19. *Ceriopora micropora* Goldfuss (p. 679).

The globular zoarium, × 6, and surface view of the same, × 20, of the specimen referred to this species by Ulrich.

Eocene (Aquia formation): Two and one-half miles above Popes Creek, Maryland.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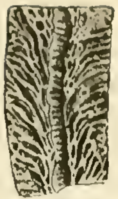
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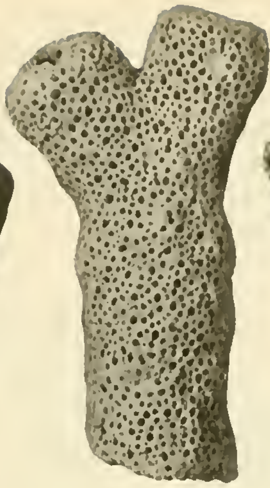
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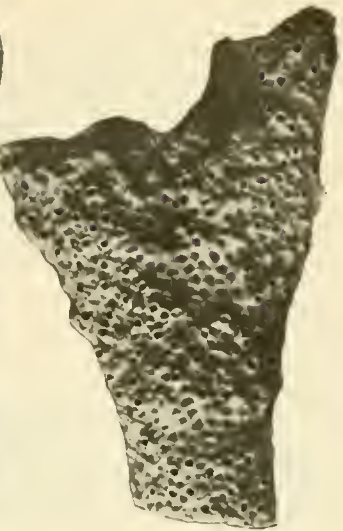
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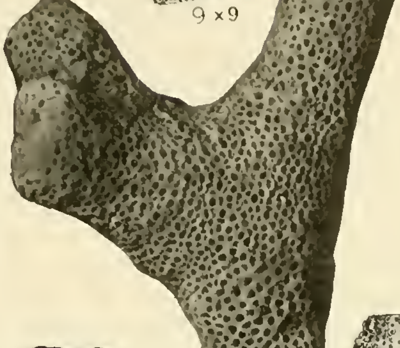
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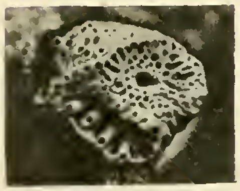
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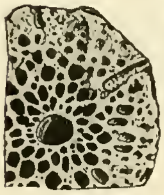
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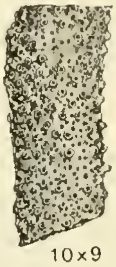
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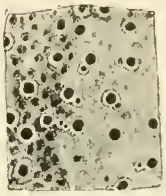
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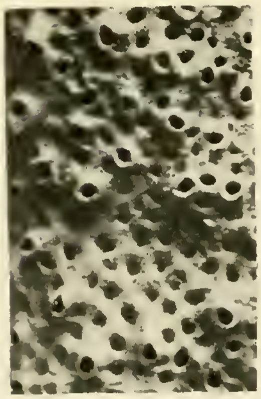
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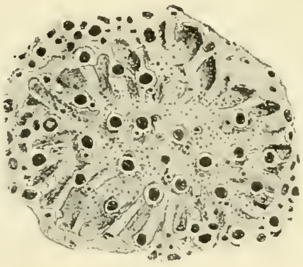
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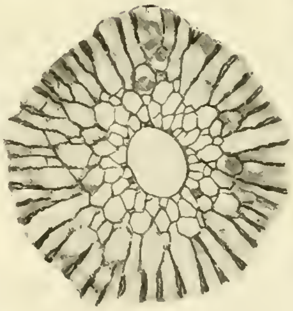
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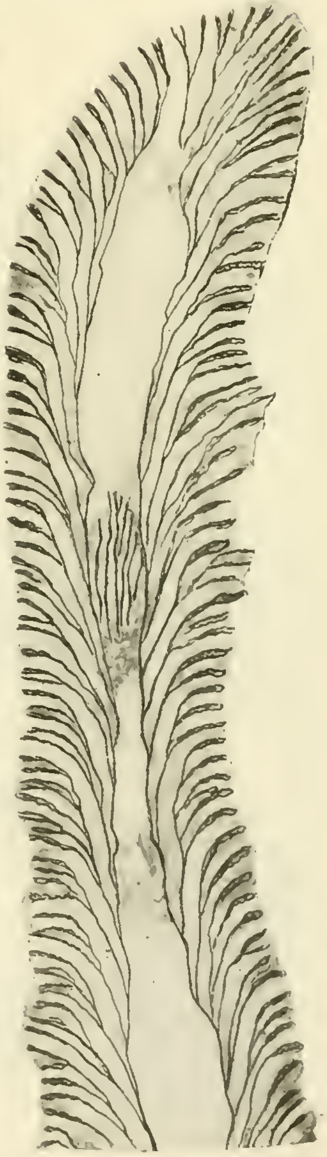
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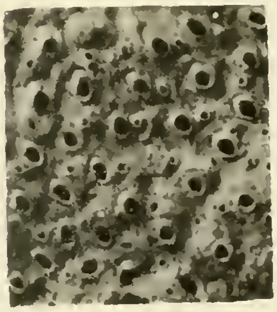
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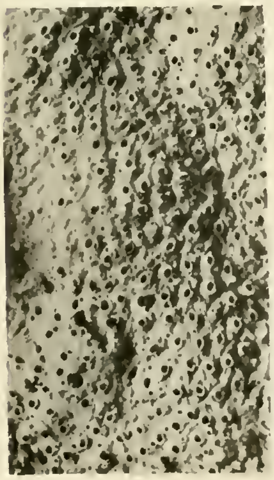
18 ×6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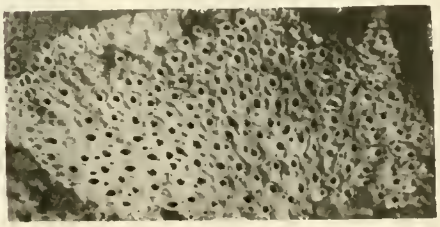
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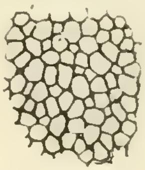
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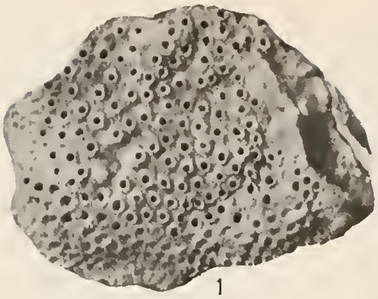
Lowest Eocene Cyclostomatous Bryozoa.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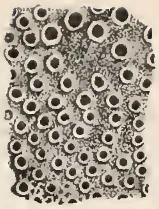
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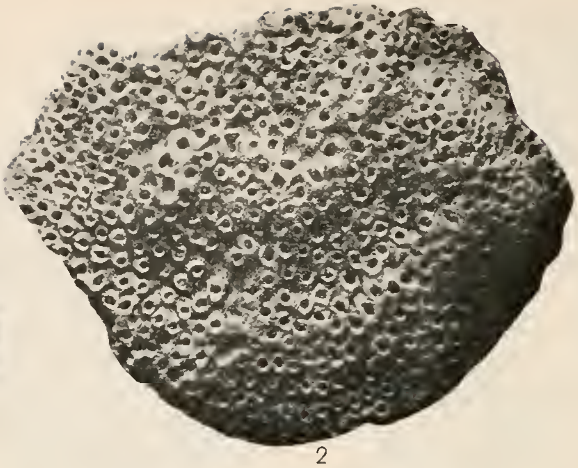
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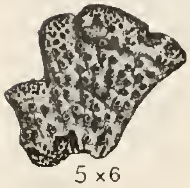
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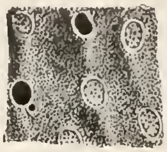
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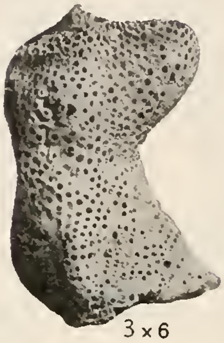
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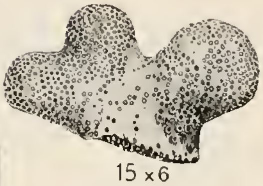
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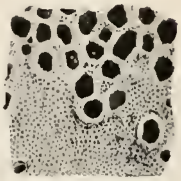
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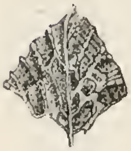
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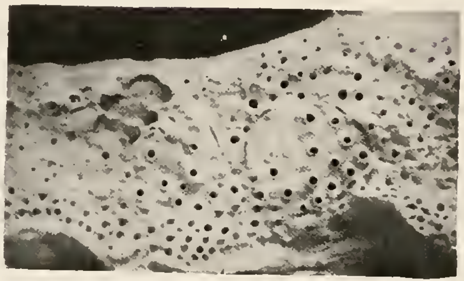
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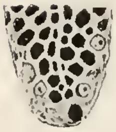
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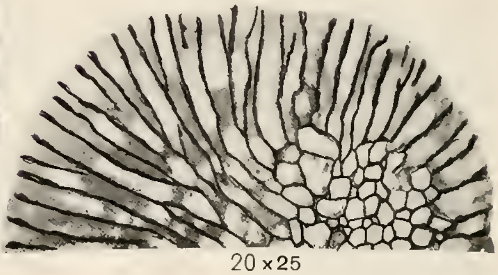
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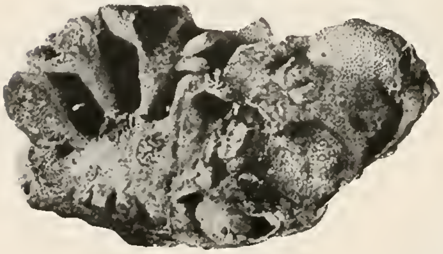
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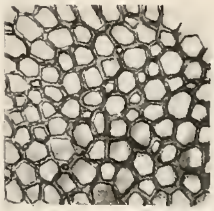
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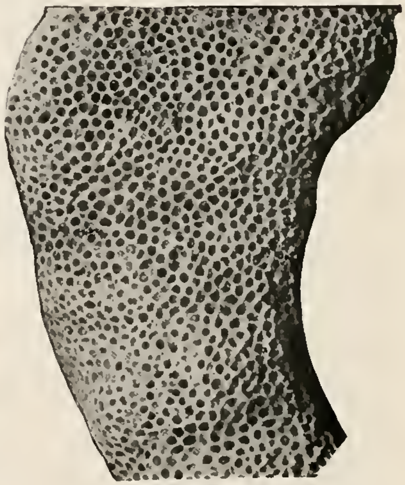
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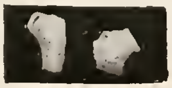
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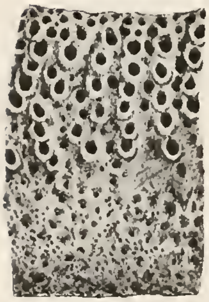
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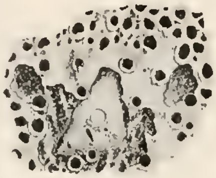
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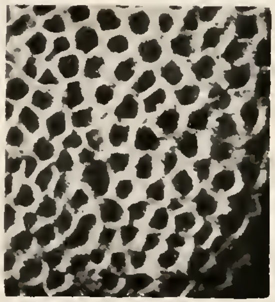

18 ×25

Lowest Eocene Cyclostomatous Bryozoa.

PLATE 104.

FIGS. 1–4. *Diaperoecia varians* Ulrich, 1901 (p. 741).
1. A discoidal zoarium, × 12, with well developed zone of growth.
2. A larger zoarium, × 12.
3. A tubular zoarium, × 6, preserving two ovicells.
4. Surface, × 12, showing the ovicell.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 65456, U.S.N.M.

FIGS. 5, 6. *Plagioecia subramosa* Ulrich, 1901 (p. 709).
5. A fragment, × 6.
6. Surface, × 20, showing several covered apertures.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

FIGS. 7–13. *Lekythionia dichotoma* Gabb and Horn, 1862 (p. 747).
7. Transverse section of a fragment, × 6.
8, 9. Upper and lower fourths of the same, × 20.
10. A reticulate zoarium, × 3, showing the folding of the branches.
11. Surface of ovicelled branch, × 12.
12. Portion of side of a fragment, × 20.
13. A broken ovicell, × 20, formed over a previous intact ovicell.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 65457, U.S.N.M.

FIGS. 14–20. *Heteropora tecta* Ulrich, 1901 (p. 682).
14. The small subramose zoarium, natural size.
15. End of a branch, × 6, with apertures of tubes covered by a pellicle.
16. Portion of the same, × 20.
17, 18. Surface of a branch, × 12, and a portion, × 25. The mesopores and zooecia are equally large.
19. Tangential thin section, × 25.
20. Portion of a transverse thin section, × 25.

Lowest Eocene (Bryozoan bed at base of Aquia formation): Upper Marlboro, Maryland.

Cat. No. 65458, U.S.N.M.

PLATE 105.

FIGS. 1, 2. *Stomatopora contracta*, new species (p. 655).

1. The type specimen, × 12, showing growth in irregular polygons.
2. Portion, × 25. Several of the tubes have two peristomes indicating regeneration.

Midwayan (Clayton limestone): Well, Brundidge, Alabama.

Cat. No. 65249, U.S.N.M.

FIGS. 3, 4. *Proboscina variabilis*, new species (p. 659).

3. View of the biserial zoarium, × 12.
4. Portion of a branch, × 25, illustrating the salient peristomes.

Midwayan (Clayton limestone). Well, Brundidge, Alabama.

Cat. No. 65250, U.S.N.M.

FIGS. 5, 6. *Berenicea palmula*, new species (p. 669).

5. A complete zoarium, × 12. This specimen could be assigned to either *Proboscina* or *Berenicea*.
6. Portion of the same example, × 25. A narrow zone of growth is preserved.

Midwayan (Clayton limestone): One mile west of Fort Gaines, Georgia.

Cat. No. 65251, U.S.N.M.

FIGS. 7–11. *Proboscina admota*, new species (p. 659).

7–10. Different forms of the multiserial zoarium, × 12, in varying conditions of preservation.

11. Portion of a specimen preserving the ancestrula, × 25. The close arrangement of the peristomes is evident.

Midway (Clayton limestone): One mile west of Fort Gaines, Georgia.

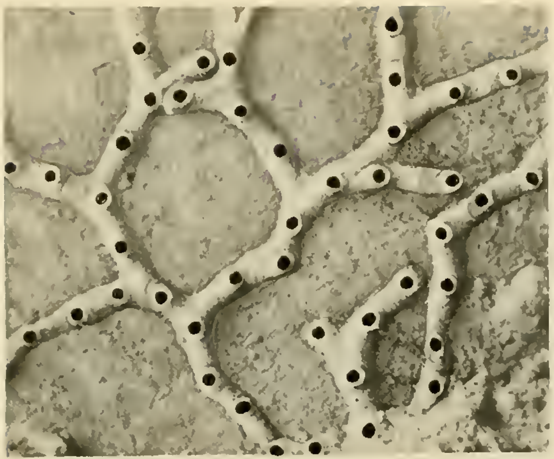
Cat. No. 65252, U.S.N.M.

FIG. 12. *Berenicea undata*, new species (p. 670).

Portion of the orbicular zoarium, × 25, showing strong overlapping wrinkles.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.

Cat. No. 65253, U.S.N.M.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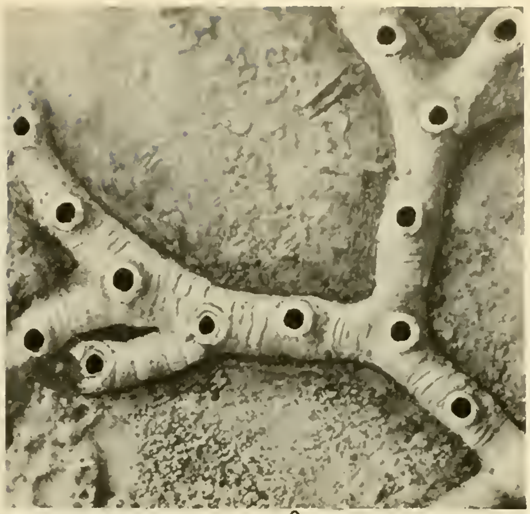
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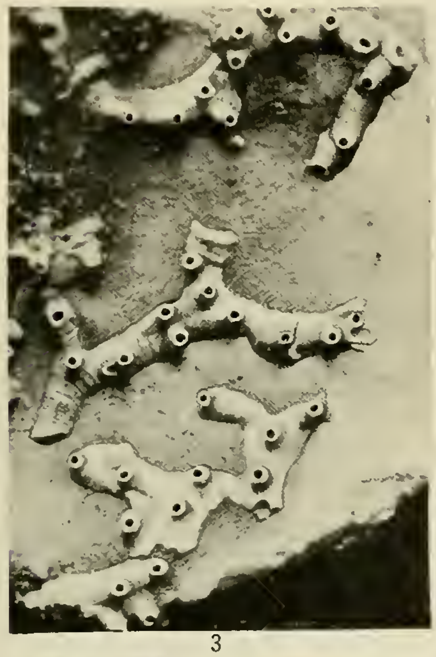
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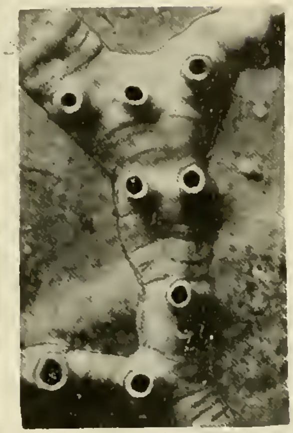
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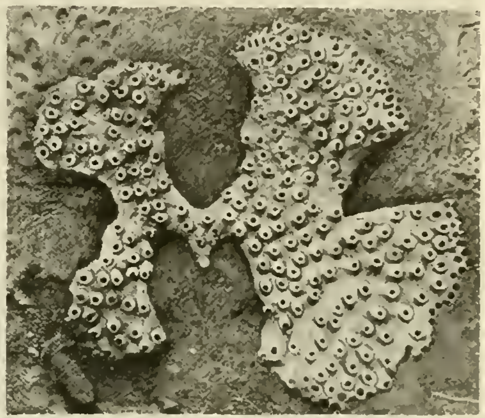
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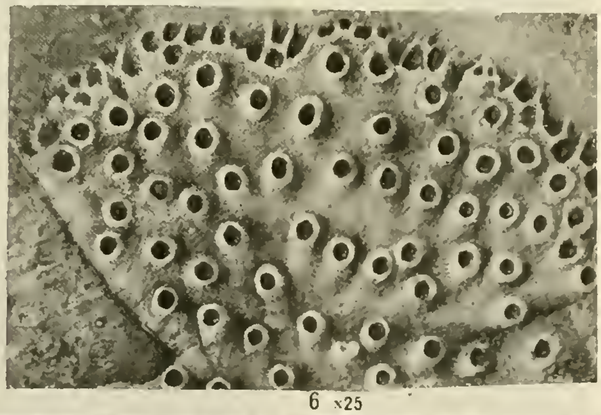
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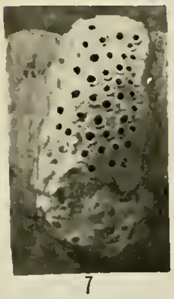
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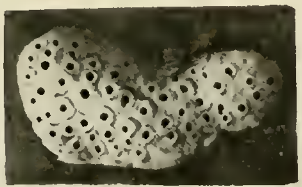
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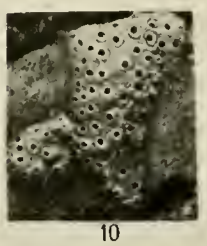
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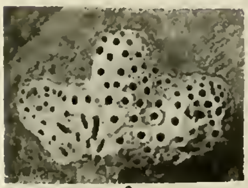
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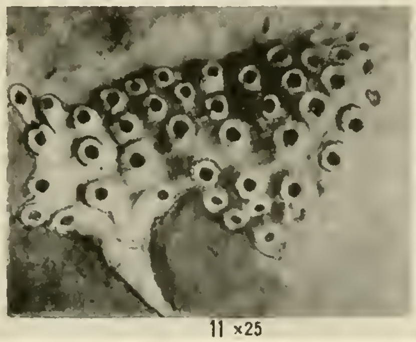
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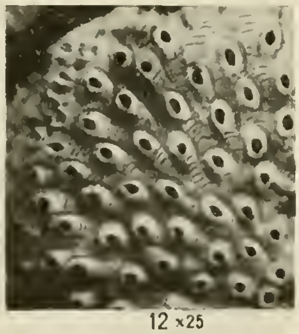
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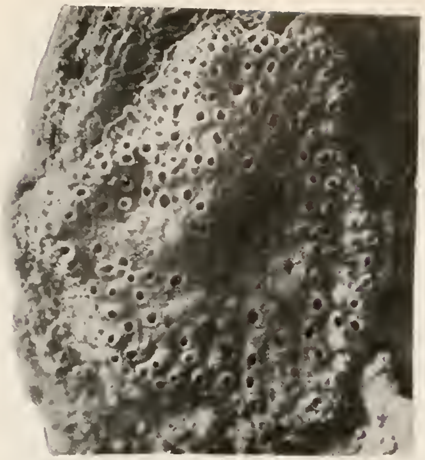
MIDWAYAN CYCLOSTOMATOUS BRYOZOA.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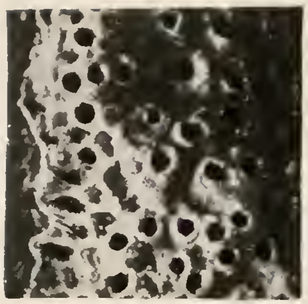
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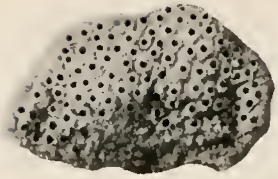
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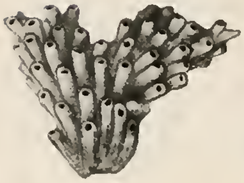
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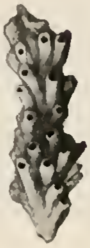
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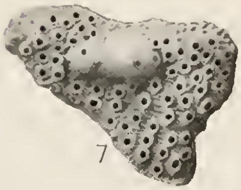
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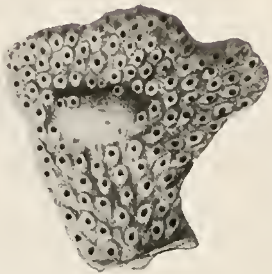
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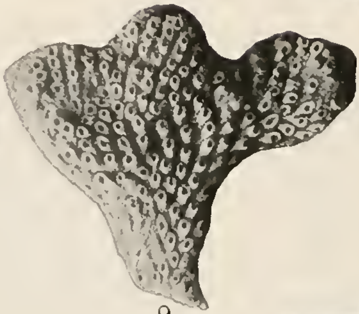
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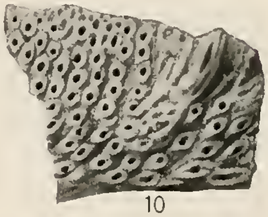
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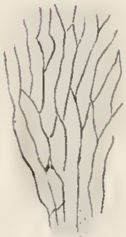
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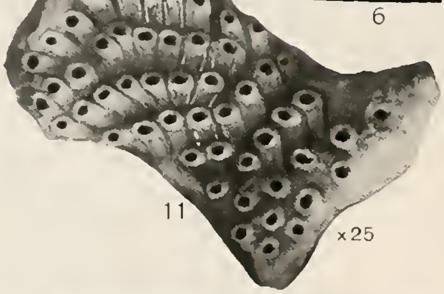
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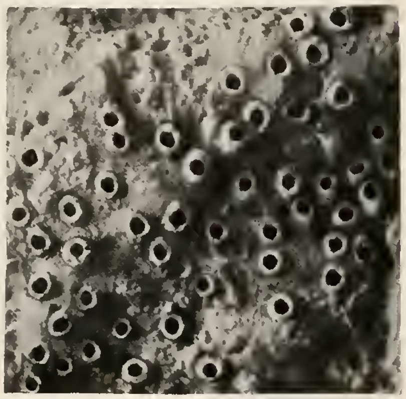
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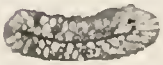
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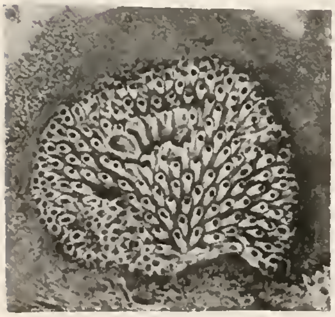
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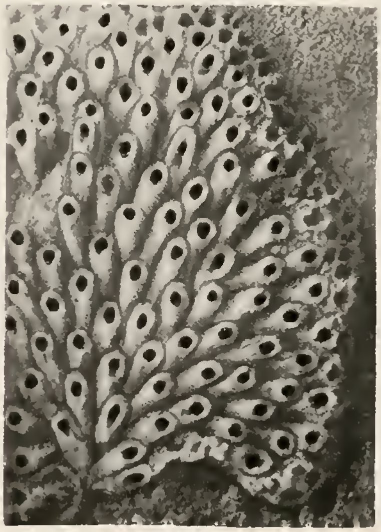
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Midwayan Cyclostomatous Bryozoa.

PLATE 106.

FIGS. 1, 2. *Berenicea stipata*, new species (p. 670).
- 1. The irregularly orbicular zoarium with crowded peristomes, × 12.
- 2. Portion of the same surface, × 25.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 65419, U.S.N.M.

FIG. 3. *Berenicea brevissima*, new species (p. 671).
The orbicular incrusting zoarium, × 12, with erect short tubes.
Midwayan (Clayton limestone): One mile west of Fort Gaines, Georgia.
Cat. No. 65420, U.S.N.M.

FIGS. 4, 5. *Diastopora tubaedes*, new species (p. 673).
4, 5. The cylindrical branched, tubular zoarium, × 12.
Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 65421, U.S.N.M.

FIGS. 6–14. *Plagioecia lobata*, new species (p. 710).
- 6. Group of the bilamellar, flabellate zoaria, natural size.
- 7. Curious triangular ovicelled lobe very narrow at the base, × 12.
- 8. Zoarium, × 12, illustrating the globular convex ovicell.
- 9. Lobe branching in the same plane. × 12.
- 10. Lobe branching laterally, × 12.
- 11. Zoarium, × 25.
- 12. Tangential thin section, × 25, showing the minute pores.
- 13, 14. Transverse sections, × 12 .

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama, and one mile west of Fort Gaines, Georgia. (Fig. 10.)
Cat. Nos. 65422, 65423, U.S.N.M.

FIGS. 15, 16. *Plagioecia clavioedes*, new species (p. 710).
The flabelliform, incrusting zoarium, × 12, and a portion, × 25.
Midwayan (Clayton limestone). One mile west of Fort Gaines, Georgia.
Cat. No. 65424, U.S.N.M.

FIGS. 17, 18. *Plagioecia superposita*, new species (p. 710).
- 17. The incrusting zoarium, × 12, formed of superposed subcolonies.
- 18. Portion of a subcolony, × 25.

Midwayan: Well at Brundidge, Alabama.
Cat. No. 65425, U.S.N.M.

PLATE 107.

FIG. 1. *Tubulipora midwayanica*, new species (p. 753).

The small free flabellate type specimen. × 12.

Midwayan (Clayton limestone): One mile west of Fort Gaines, Georgia.

Cat. No. 65243, U.S.N.M.

FIGS. 2–9. *Pleuronea fibrosa*, new species (p. 765).

2. Group of fragments, natural size.

3. Basal side of zoarium, × 12, with small, narrow tergopores, giving the fibrous aspect.

4. Fragment showing the lateral ovicell, × 12.

5. Zoarium with smooth basal lamella, × 12, showing no tergopores.

6. Celluliferous side of the zoarium with smooth basal lamella, × 12.

7. Dorsal of zoarium provided with large tergopores, × 12.

8, 9. Anterior side of a zoarium with tergopores, × 12, and a portion, × 25.

Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.

Cat. No. 65244, U.S.N.M.

FIGS. 10–18. *Pleuronea alveolata*, new species (p. 769).

10. Fragments of the zoarium, natural size.

11. Dorsal side of branch, × 12, exhibiting the ovicell.

12. Basal side of a fragment, × 12, with large funnel shaped tergopores.

13. Lateral face, × 12.

14, 15. Side view of zoarium, × 12, and × 25.

16. Longitudinal thin section, × 25. To the left are the zooecial tubes and to the right the tergopores.

17. Tangential thin section of the dorsal, × 25, showing the orifice of the tergopores.

18. Transverse section of a branch, × 12.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.

Cat. No. 65245, U.S.N.M.

FIGS. 19–24. *Idmonea tacta*, new species (p. 771).

19. Zoarial fragments, natural size.

20, 21. A wide zoarium, showing 7 tubes to the fascicle, × 12 and × 25.

22. Dorsal of zoarial fragment, × 12.

23, 24. A narrow zoarium with 2 or 3 tubes to the fascicle, × 12.

Midwayan (Clayton limestone): One mile west of Fort Gaines, Georgia.

Cat. No. 65246, U.S.N.M.

FIG. 25. *Stomatopora opposita*, new species (p. 654).

The type specimen, × 12, showing there is no dichotomous branching.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.

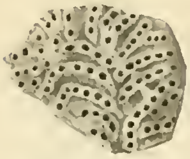
Cat. No. 65247, U.S.N.M.

FIG. 26. *Stomatopora exigua*, new species (p. 655).

Zoarium, × 25, showing the characteristic narrow fusiform branches.

Midwayan (Clayton limestone): Well at Brundidge, Alabama.

Cat. No. 65248, U.S.N.M.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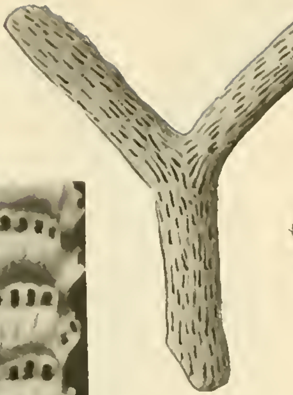
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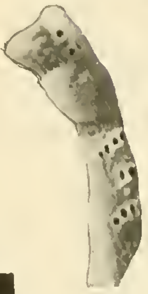
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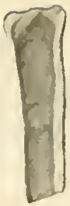
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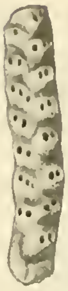
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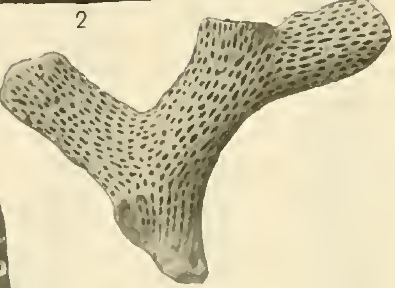
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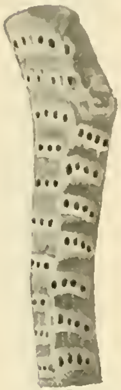
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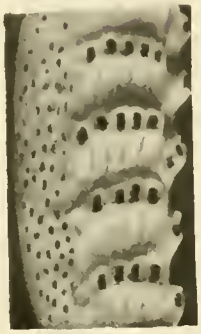
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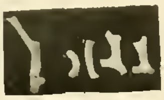
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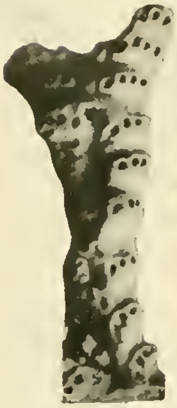
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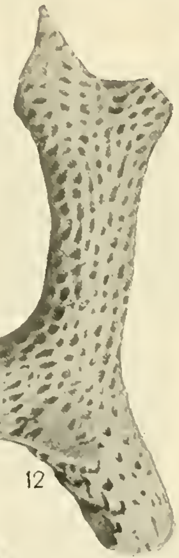
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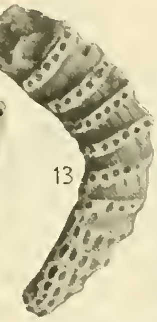
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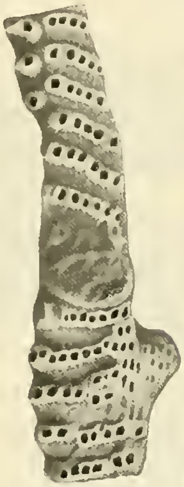
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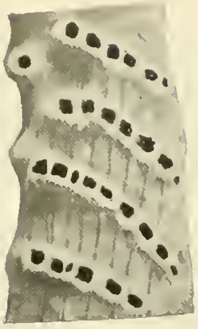
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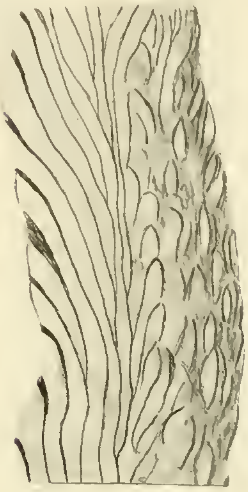
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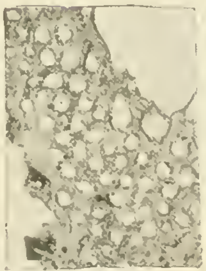
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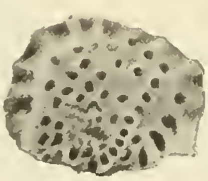
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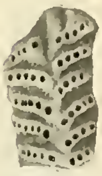
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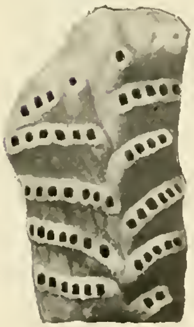
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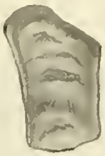
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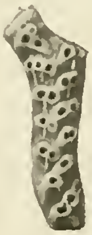
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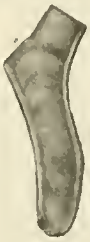
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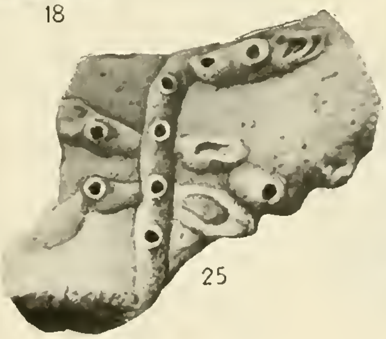
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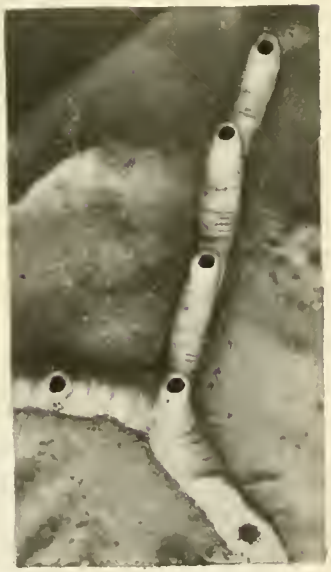
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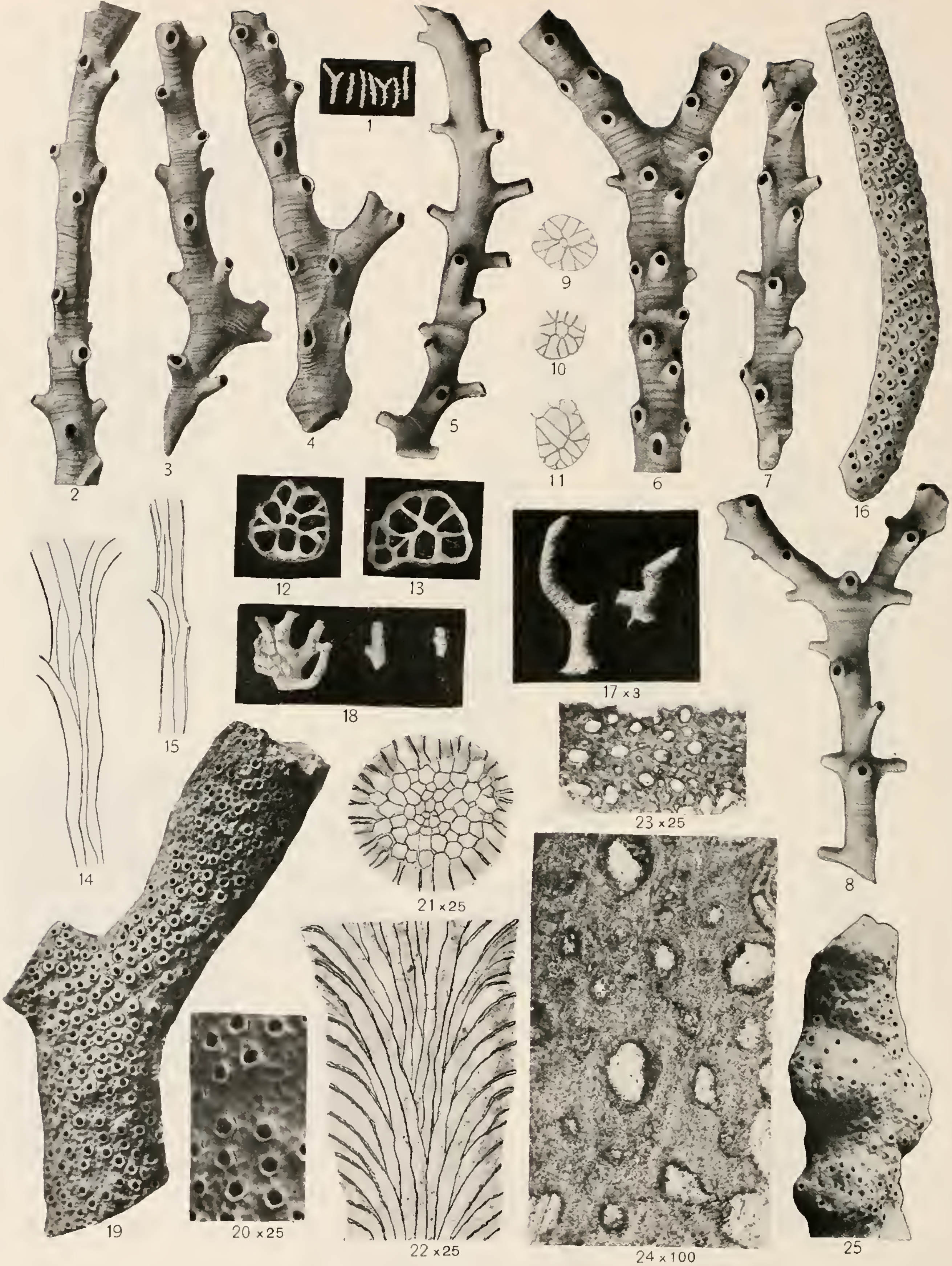
Midwayan Cyclostomatous Bryozoa.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MIDWAYAN CYCLOSTOMATOUS BRYOZOA.

PLATE 108.

FIGS. 1–15. *Mecynoecia proboscidea* Milne-Edwards, 1838 (p. 726).
1. A group of fragments, natural size.
2–4. Three well preserved specimens, × 12, showing variations.
Vicksburgian (Marianna limestone): West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65437, U.S.N.M.
5–8. Four similar specimens, × 12, from the Jacksonian.
9–11. Three transverse section, × 12, taken at different heights from the same specimen.
12, 13. Two transverse sections, × 25.
14. Longitudinal thin section, × 12.
15. Longitudinal thin section, × 12, of a specimen with thick walls.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65438, U.S.N.M.

FIG. 16. *Entalophora stipata*, new species (p. 734).
The cylindrical clubshaped zoarium, × 12.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 65439, U.S.N.M.

FIGS. 17–25. *Ascosoecia prominens*, new species (p. 836).
17, 18. The solid branching zoarium, natural size, and two specimens, × 3.
19, 20. Surface of a branch with salient peristome, × 12 and × 25.
21, 22. Transverse and longitudinal thin sections, × 25. The mesopores are as wide as the tubes.
23, 24. Tangential thin section, × 25, and a small portion, × 100.
25. Fragment, × 12, exhibiting three ovicells.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 65440, U.S.N.M.

PLATE 109.

FIGS. 1–9. *Tretocycloecia ? attenuata* Ulrich, 1882 (p. 826).
1. Examples of the solid, cylindrical zoarium, natural size.
2. Specimen, × 12, exhibiting a broken ovicell.
3. 4. Rounded extremity of a branch, × 12 and × 25. There is no zone of growth.
5. Branched zoarium, × 12. There are a few mesopores.
6. Portion of fig. 5, × 25.
7. Longitudinal thin section, × 20. The mesopores are short and few.
8. Transverse thin section, × 20. The walls of the mesopores are vesicular.
9. Tangential thin section, × 20. The mesopores are few.
Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 65256, U.S.N.M.

FIGS. 10–12. *Mecynoecia luvernensis*, new species (p. 727).
10. Two fragments, natural size.
11, 12. Celluliferous sides of the same specimens, × 12.
Midwayan (Clayton limestone): Luverne, Crenshaw County, Alabama.
Cat. No. 65257, U.S.N.M.

FIGS. 13. 14. *Plagioecia brundidgensis*, new species (p. 711).
13. The incrusting zoarium, × 12, showing the very convex short ovicell at the upper left corner.
14. Portion, × 25. The tubes are small and distinct.
Midwayan (Clayton limestone): Well at Brundidge, Alabama.
Cat. No. 65258, U.S.N.M.

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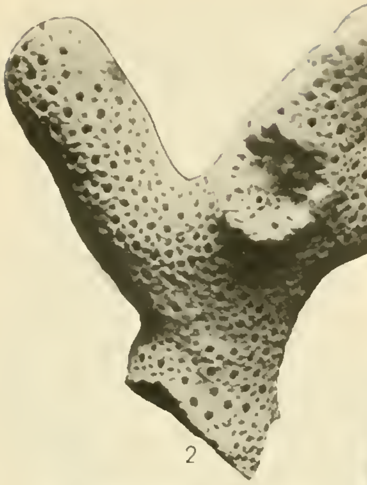
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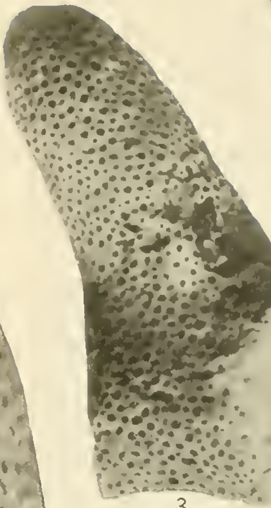
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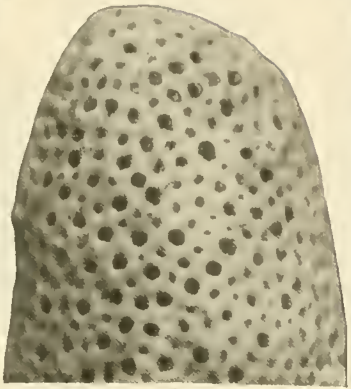
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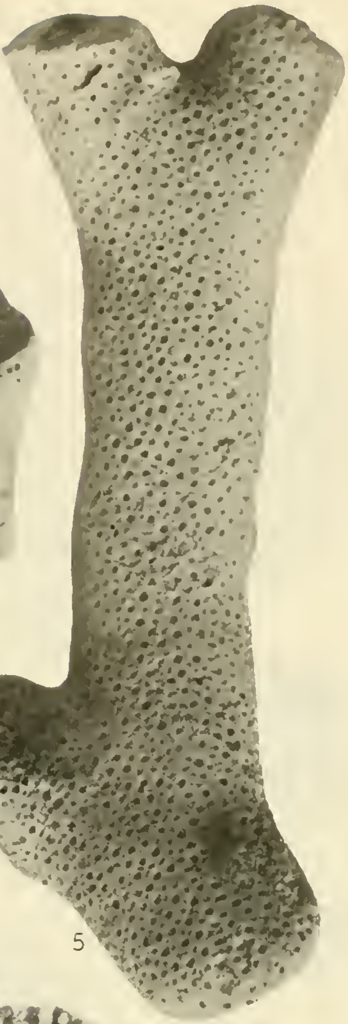
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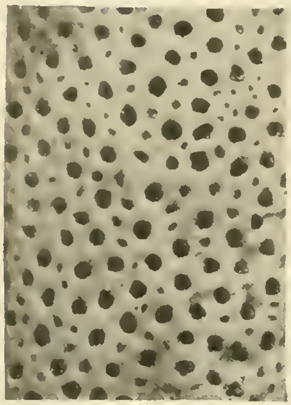
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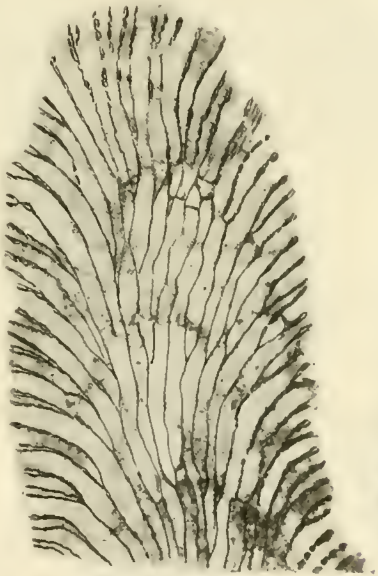
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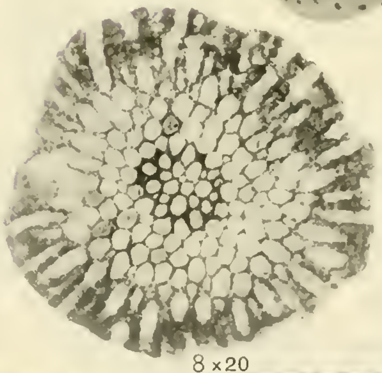
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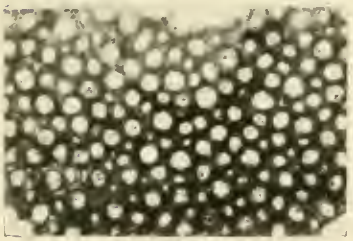
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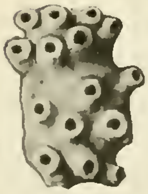
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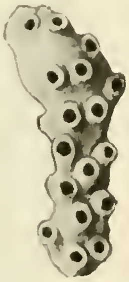
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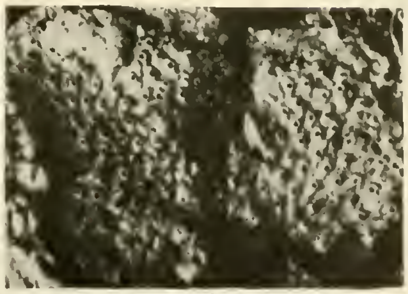
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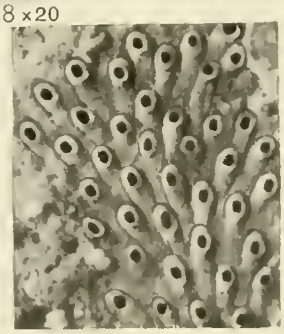
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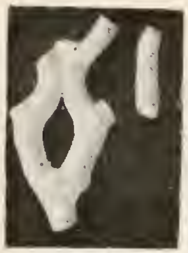
Midwayan Cyclostomatous Bryozoa.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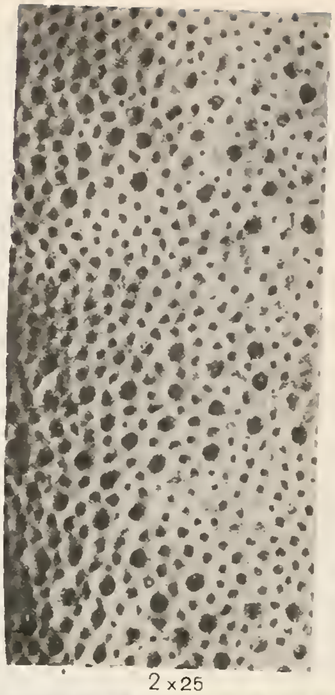
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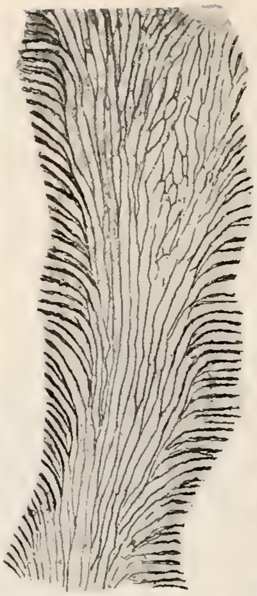
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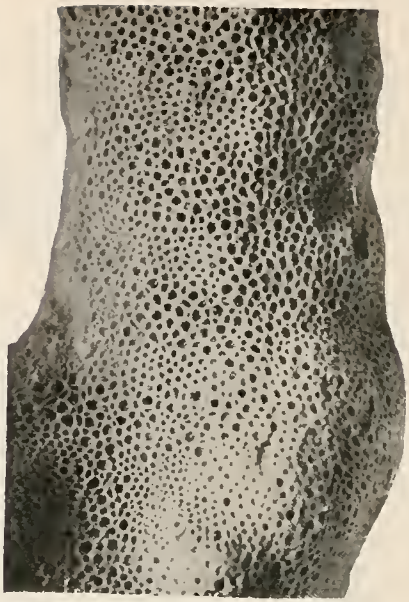
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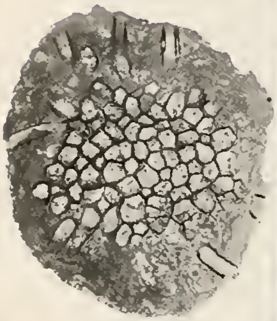
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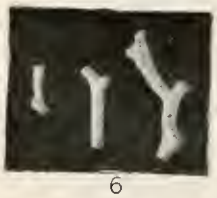
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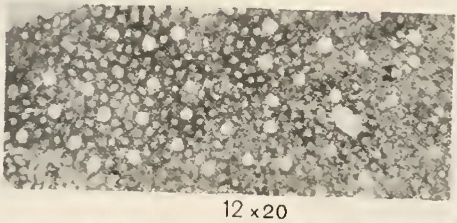
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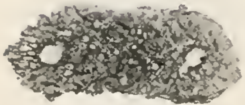
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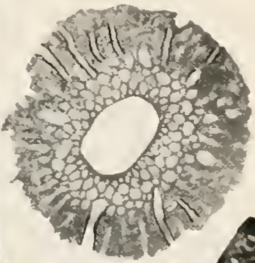
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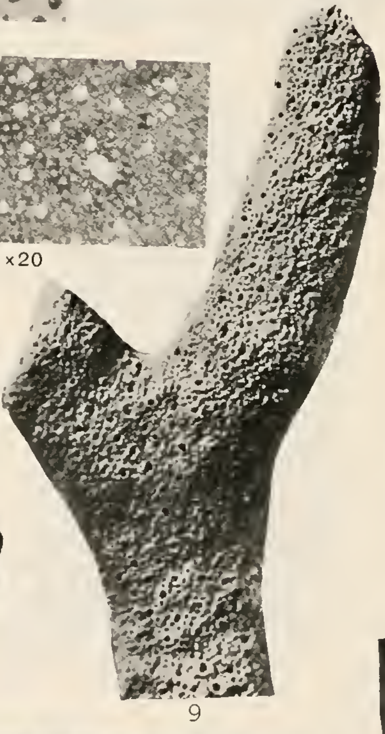
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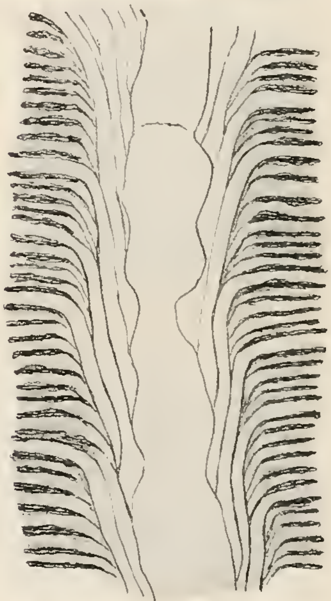
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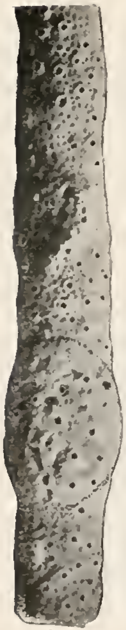
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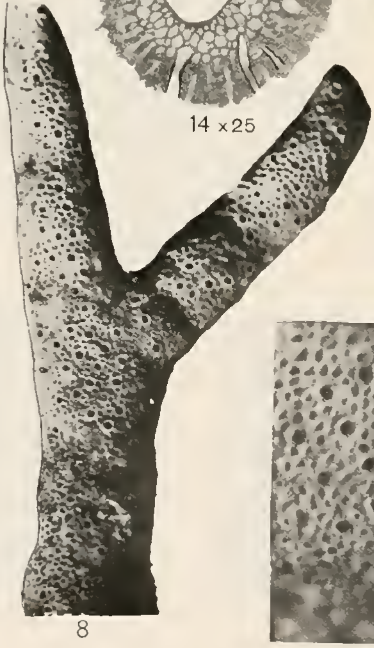
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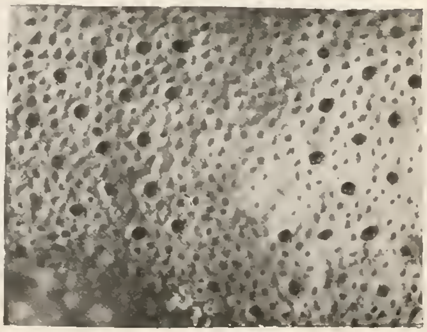
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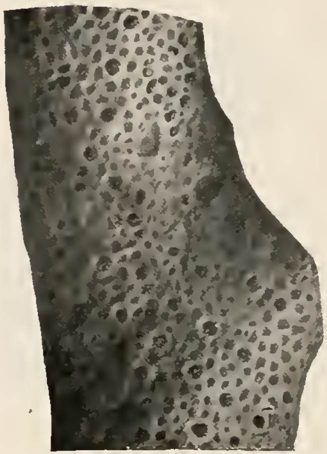
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MIDWAYAN CYCLOSTOMATOUS BRYOZOA.

PLATE 110.

FIGS. 1–5. *Ascosoccia ? (Zonopora) ulrichi*, new species (p. 836).
1. The solid cylindrical zoarium, × 2.
2. Surface, × 25, exhibiting the zones of mesopores.
3. The same zoarium, × 12.
4. Longitudinal thin section, × 12. The walls of the mesopores are vesicular.
5. Transverse thin section, × 25.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 65261, U.S.N.M.

FIGS. 6–15. *Parascosoccia consimilis* Ulrich, 1882 (p. 840).
6. Examples of the hollow cylindrical zoarium, natural size.
7. Ovicelled zoarium, × 12.
8. Branching fragment, × 12, well preserved with salient peristomes.
9. Somewhat worn zoarium, × 12, exhibiting the usual aspect of specimens.
10. Surface of specimen shown in figure 8, × 25.
11. Surface of worn example (fig. 9), × 25.
12. Tangential thin section, × 20.
13. Transverse thin section, × 12, through a branch containing two longitudinal cavities.
14. Transverse thin section, × 25.
15. Longitudinal thin section, × 25.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas; one mile west of Fort Gaines, Georgia (figs. 9, 11).
Cat. Nos. 65262, 65263, U.S.N.M.

PLATE 111.

FIGS. 1–4. *Heteropora alveolata*, new species (p. 682).

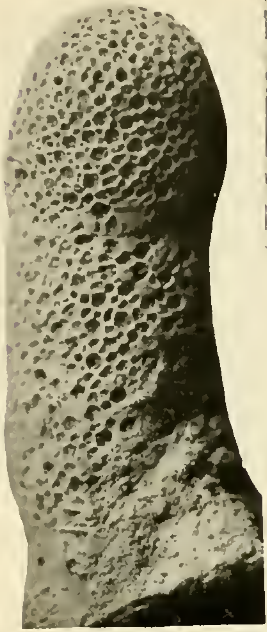
1. The massive zoarium with cylindrical branches, natural size.
2. A cylindrical branch, × 12.
3. Longitudinal thin section, × 25.
4. Portion of a transverse thin section, × 25.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 65254, U.S.N.M.

FIGS. 5–10. *Ceriopora vesiculosa*, new species (p. 679).

5. The massive zoarium, natural size.
6. Surface, × 25.
7. Tangential thin section, × 25.
8. Portion of a transverse thin section, × 25. The walls of the tubes are vesicular.
9. Portion of another transverse section, × 25.
10. Longitudinal thin section, × 25, of the type specimen composed of many superposed layers although not separated.

Midwayan (Clayton limestone): Mabelvale, near Little Rock, Arkansas.
Cat. No. 65255, U.S.N.M.



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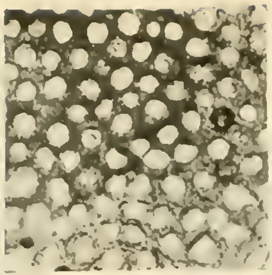

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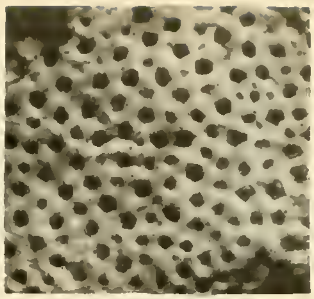

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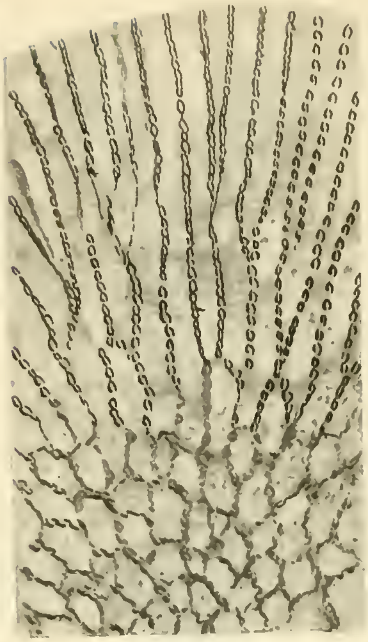

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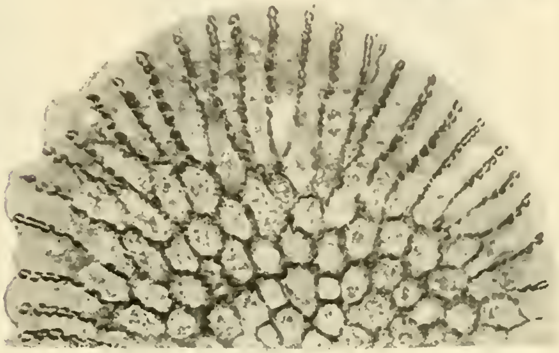

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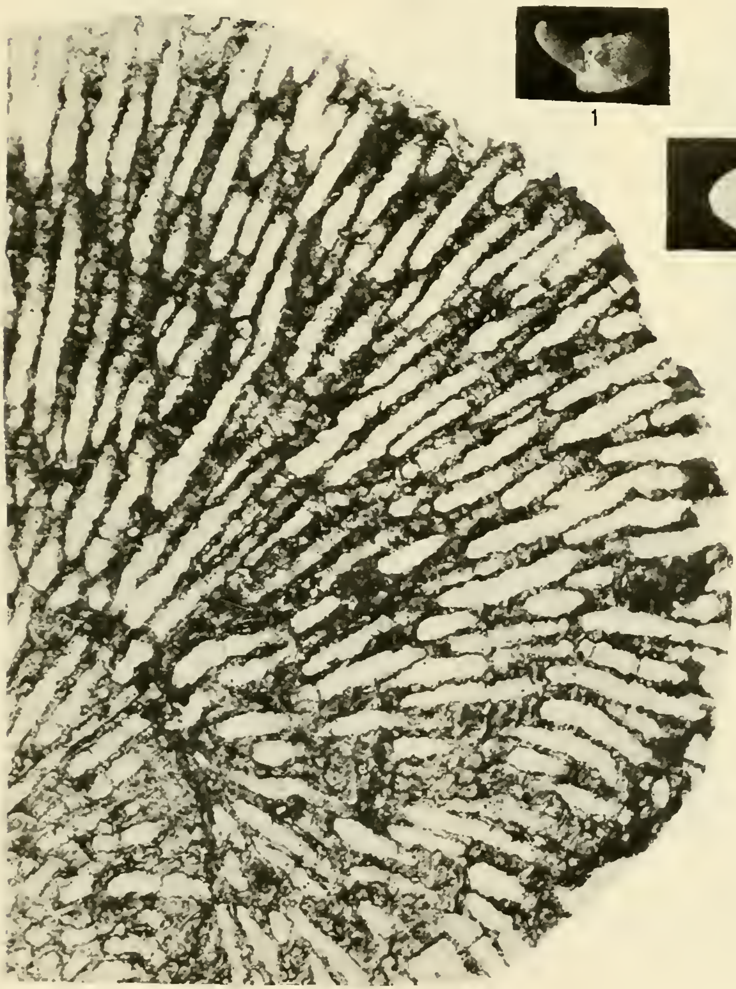

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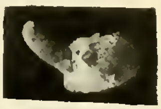

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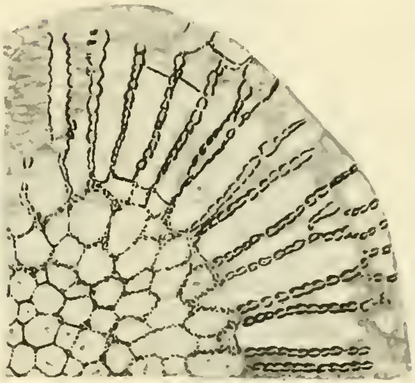

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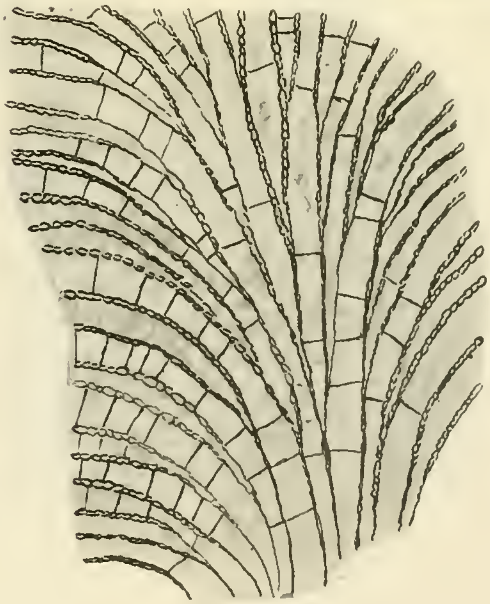

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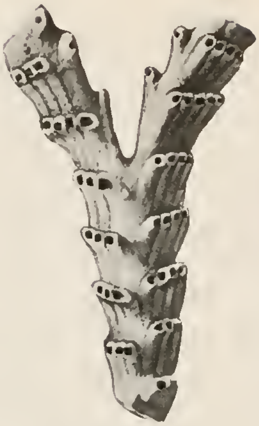
MIDWAYAN CYCLOSTOMATOUS BRYOZOA.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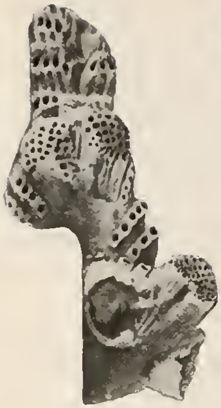
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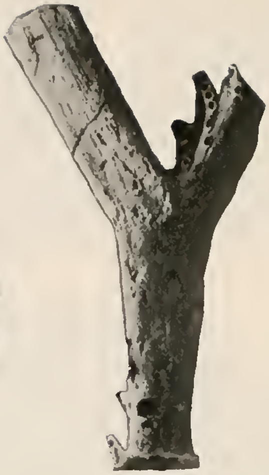
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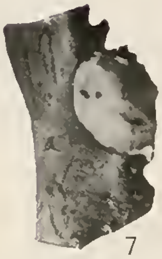
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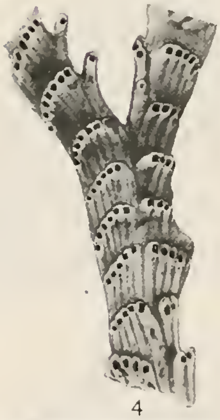
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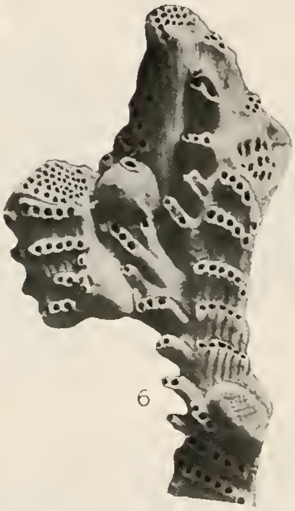
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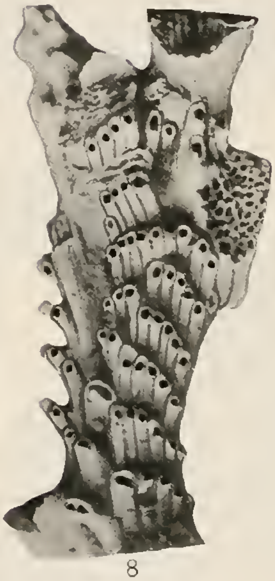
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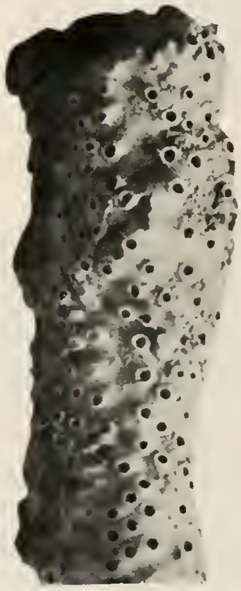
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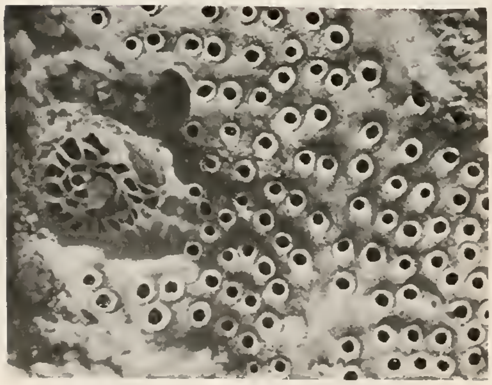
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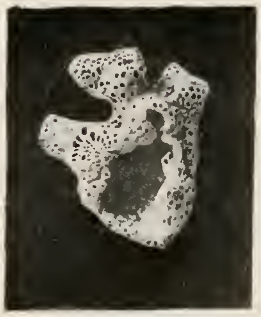
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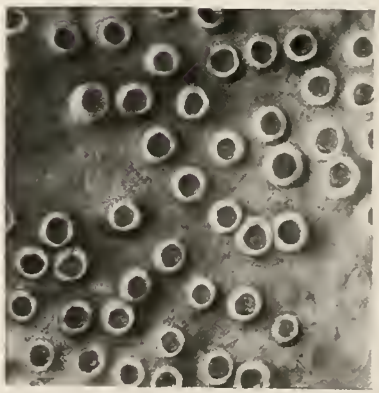
12 x 25

WILCOXIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 112.

FIGS. 1–8. *Lagonœcia lamellifera*, new species (p. 792).

1. Three fragments, natural size of the Idmonea like zoarium.
2. Branch, × 12, with transverse fascicles.
3. Reticulate zoarium, × 12, showing a broken ovicell, formed after the calcification of the neighboring tubes.
4. Anterior face of a bifurcated zoarium, × 12.
5. Posterior face of the same example, × 12.
6. Reticulate zoarium, × 12, showing the ovicell placed above a bifurcation and the triangular zone of growth.
7. View of branch, × 12, showing the ovicell suspended on the lateral edge. The oeciostome is visible at the top.
8. The fascicles are transverse, × 12.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 65264, U.S.N.M.

FIGS. 9–12. *Plagioecia tubifer*, new species (p. 711).

9. Fragment of tubular, ovicelled zoarium, × 12.
10. A free zoarium with its tubular expansions, × 5.
11. Zoarium, × 12, incrusting a shell and showing (to the left) the base of a tubular expansion.
12. Portion of the same specimen, × 25.

Wilcoxian (Bashi formation): Woods Bluff, Alabama.
Cat. No. 65265, U.S.N.M.

FIG. 13. *Terebripora*, species (p. 842).

The incomplete specimen, × 20, upon which this identification is based.
Midwayan (Porters Creek formation): 3 miles north of Scooba, Mississippi.

PLATE 113.

FIGS. 1–5. *Entalophora crassa*, new species (p. 735).
- 1, 2. The thick, branched zoarium, natural size and × 12.
- 3. Portion of the surface, × 25.
- 4. Longitudinal thin section, × 25.
- 5. Transverse thin section, × 25, showing polygonal tubes.

Claibornian (Gosport sand): One mile southwest of Rockville, Clarke County, Alabama.
Cat. No. 65431, U.S.N.M.

FIGS. 6–15. *Pleuronea subpertusa*, new species (p. 767).
- 6. Zoarial fragments, natural size.
- 7. Lateral face of a zoarium, × 12, showing oblique fascicles.
- 8. Frontal of another specimen, × 12.
- 9. Dorsal of a zoarium, × 12, illustrating the large tergopores.
- 10. Broken branch, × 12, showing that the dorsal composed of tergopores separates easily from the polypidian tubes.
- 11. Tangential thin section, × 25. The tergopores are polygonal and the interstices are not calcified.
- 12. Another tangential section, × 25, in which the interstices between the tergopores are calcified.
- 13, 14. Transversal section, × 25.
- 15. Longitudinal section, × 25. The tergopores are short, but well marked and occur at all heights.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65432, U.S.N.M.

FIGS. 16–18. *Heteropora amoena* De Gregorio, 1890 (p. 683).
- 16. Zoarium with its numerous apophyses, × 5.
- 17. Surface of the zoarium, × 20.
- 18. Transverse section cutting an apophysis, × 20.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65433, U.S.N.M.

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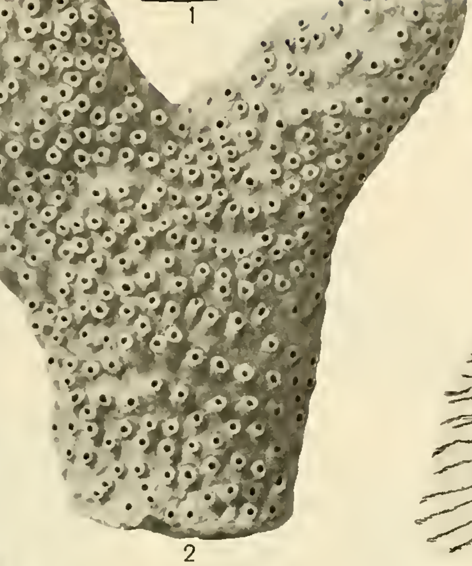
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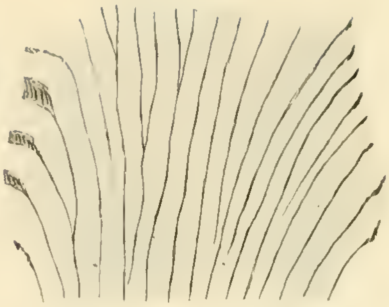
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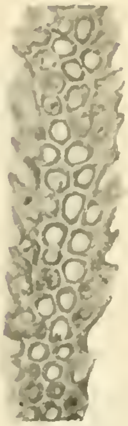
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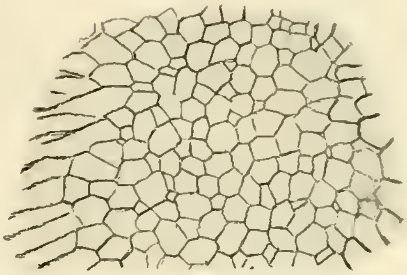
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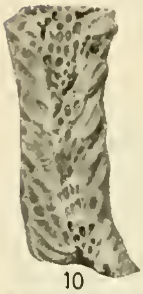
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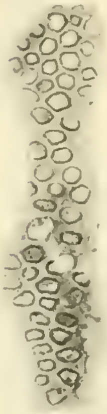
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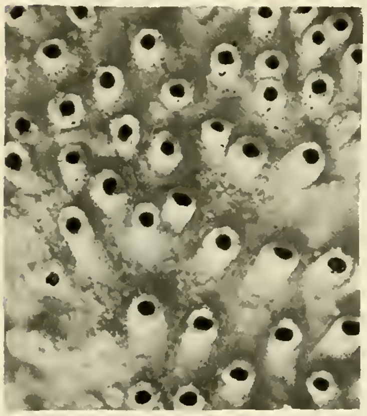
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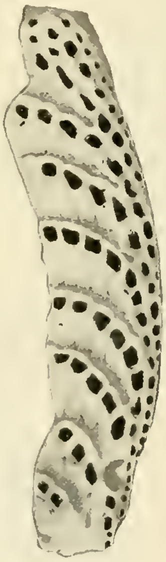
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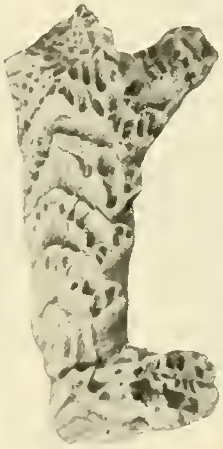
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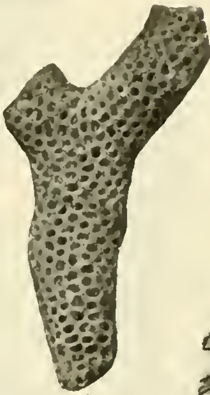
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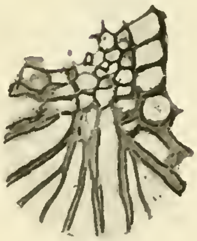
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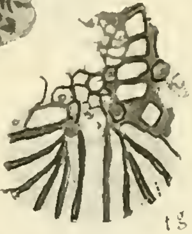
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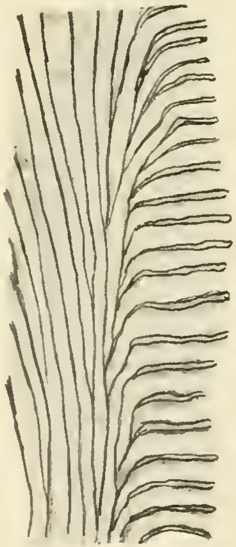
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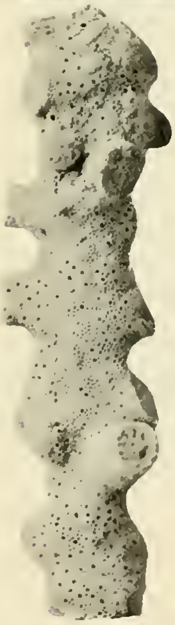
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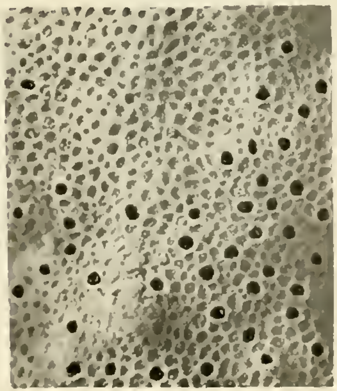
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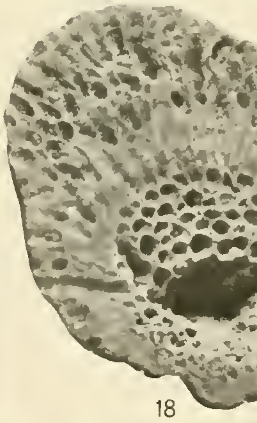
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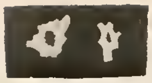
Claibornian Cyclostomatous Bryozoa.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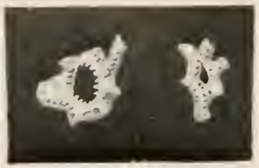
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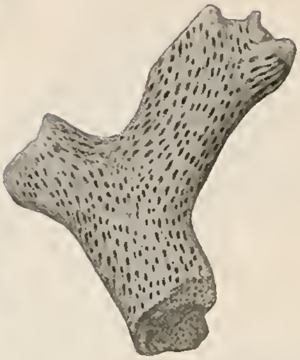
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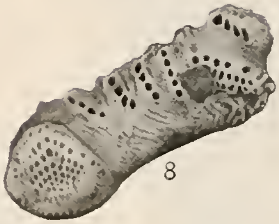
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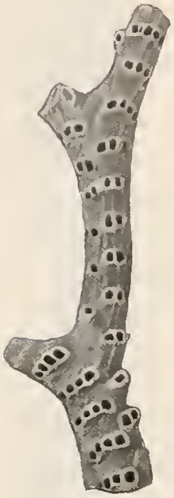
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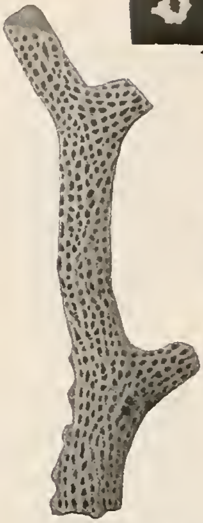
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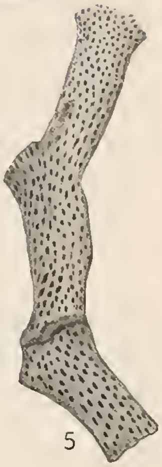
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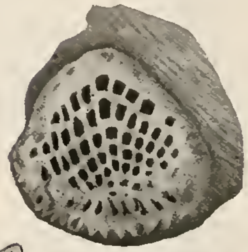
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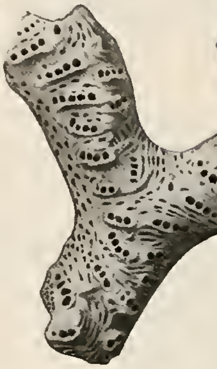
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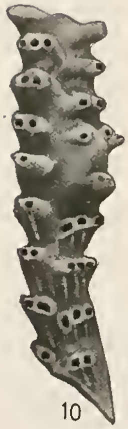
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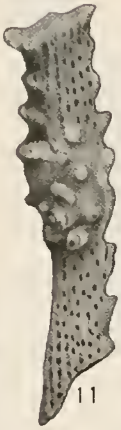
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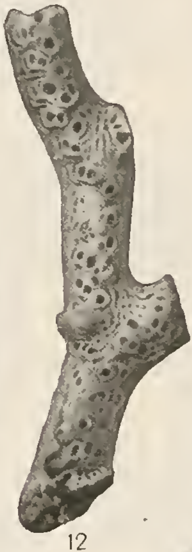
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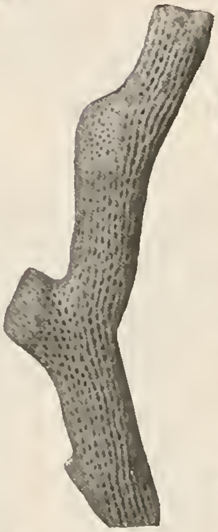
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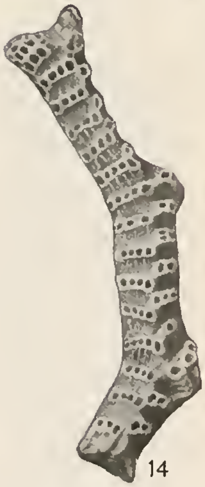
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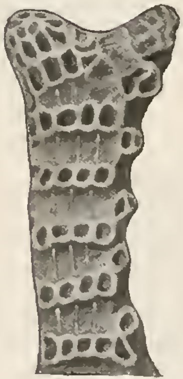
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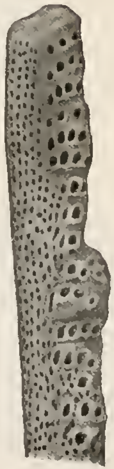
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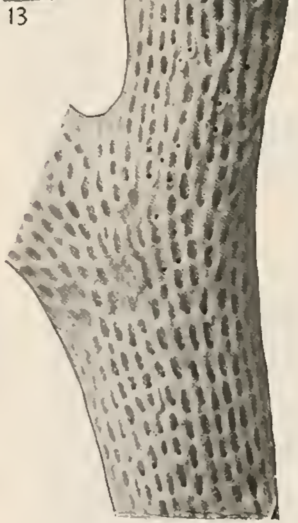
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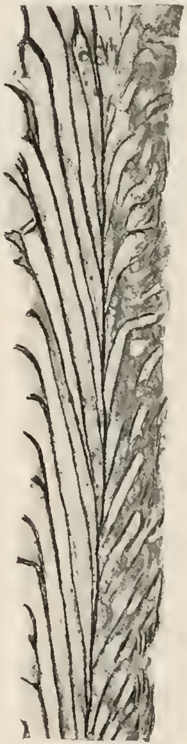

18 ×25

CLAIBORNIAN CYCLOSTOMATOUS BRYOZOA.

Plate 114.

Figs. 1–18. *Pleuronea fenestrata* Busk, 1859 (p. 766).

1, 2. Reticulate zoaria, natural size and × 2.
3. Anterior side of a zoarium, × 12, having large tergopores on the basal lamella.
4. Dorsal of the same zoarium, × 12, showing large tergopores.
5. Dorsal of zoarium, × 12, having small tergopores and false sulci.
6. Basal branch, × 12. The tergopores encroach on the frontal.
7. Dorsal of the same specimen, × 12. The tergopores are small.
8. Lateral face of a basal branch, × 12, showing the transverse section.
9. Transverse section, × 25.
10. Frontal of an ovicelled zoarium, × 12. The oeciopore is visible.
11. Dorsal of the same zoarium, × 12.
12. Basal branch with small frontal tergopores, × 12.
13. Dorsal of the same zoarium having small tergopores and false sulci, × 12.
14, 15. Frontal of a normal branch, × 12, and a portion, × 25.
16. Lateral face of a branch, × 12, with frontal tergopores on lower part only.
17. Dorsal of a zoarium, × 25, having tergopores with elongated orifices forming false sulci.
18. Longitudinal thin section, × 25. The tergopores are rarely in the axis of the zooecia but appear entangled.

Lower Jacksonian (Moodys marl): Jackson, Mississippi (figs. 1–4, 10–13, 16–18).
Claibornian, one mile southeast of Rockville, Alabama (figs. 5–9, 14, 15).
Cat. Nos. 65266, 65267, U.S.N.M.

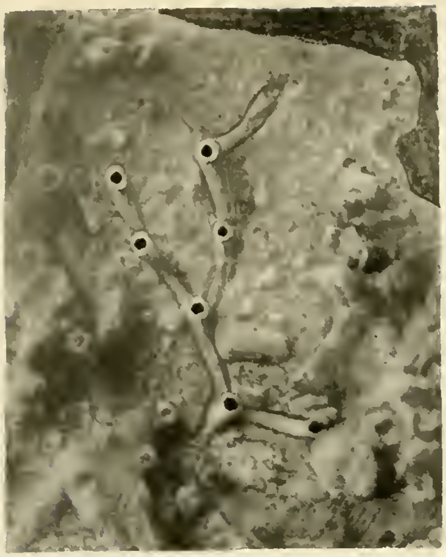
PLATE 115.

FIG. 1. *Stomatopora excavans*, new species (p. 656).
The type-specimen, × 25, showing growth upon a shell which it excavates.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65274, U.S.N.M.

FIGS. 2–6. *Plagioecia globulosa*, new species (p. 713).
2. Fragments of the cylindrical, hollow zoarium, natural size.
3. A hollow zoarium, × 12, in which the broken ovicell permits a view of the subjacent peristomes.
4. A tubular, ovicelled zoarium, × 12, incrusting an alga at the ramification of the frond.
5. Extremity of the hollow branch, × 12, showing that the zoarium surrounds a delicate radicell of an alga.
6. The same specimen, × 25, illustrating aspect of zone of growth.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65275, U.S.N.M.

FIGS. 7, 8. *Diaperoecia longicauda*, new species (p. 741).
7. Portion of the type zoarium, × 12, showing *Proboscina* form of growth.
8. Another part of the type, × 12, terminating in the *Berenicea* form of growth and bearing an ovicell.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65276, U.S.N.M.

FIGS. 9–11. *Stomatopora polygona*, new species (p. 656).
9. A young zoarium, × 12, growing over a larger species of *Stomatopora*.
10. The same specimen, × 25.
11. An older zoarium, × 6, illustrating the polygons formed by the branches.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65277, U.S.N.M.



1 ×25

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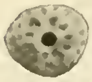

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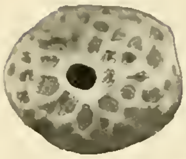

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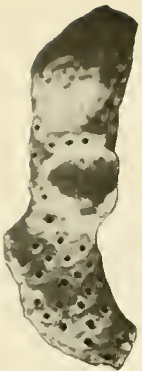

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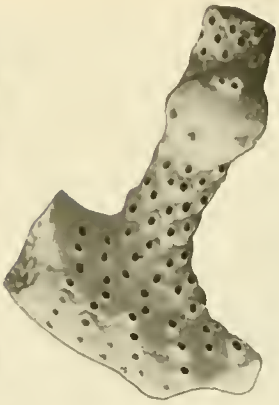

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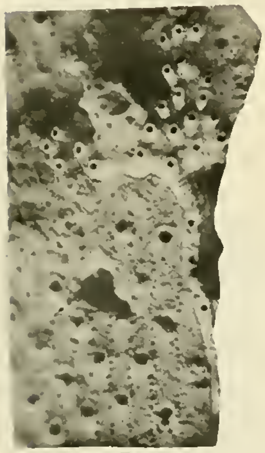

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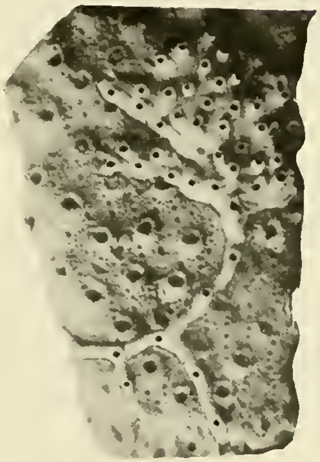

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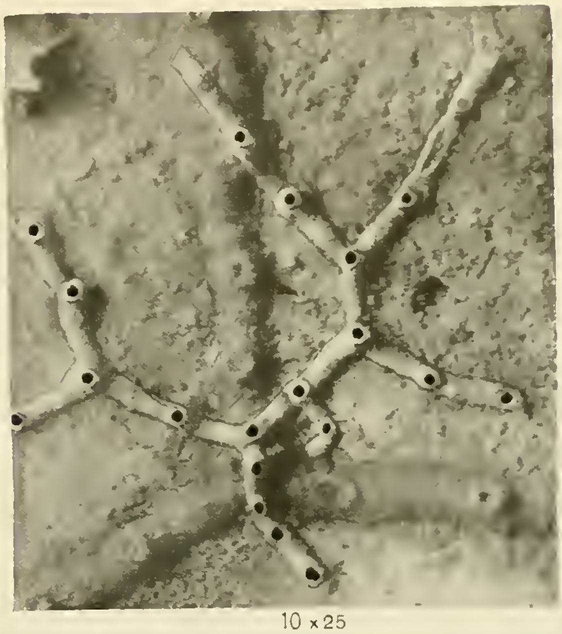
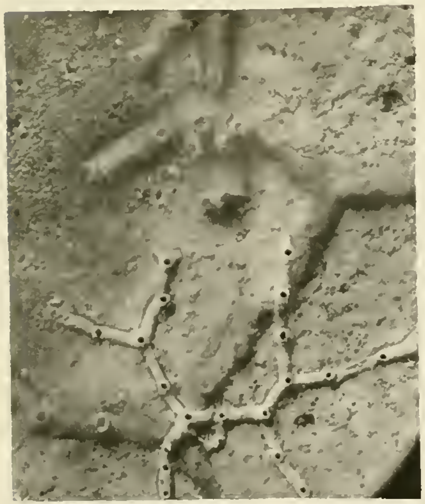


10 ×25



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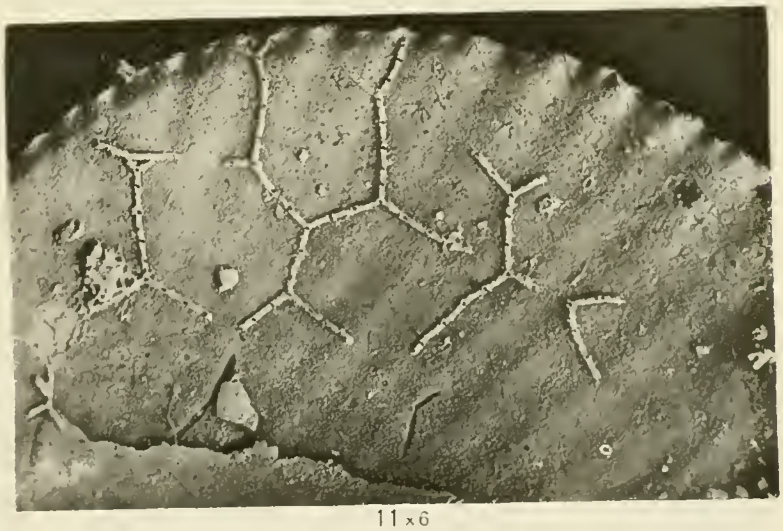
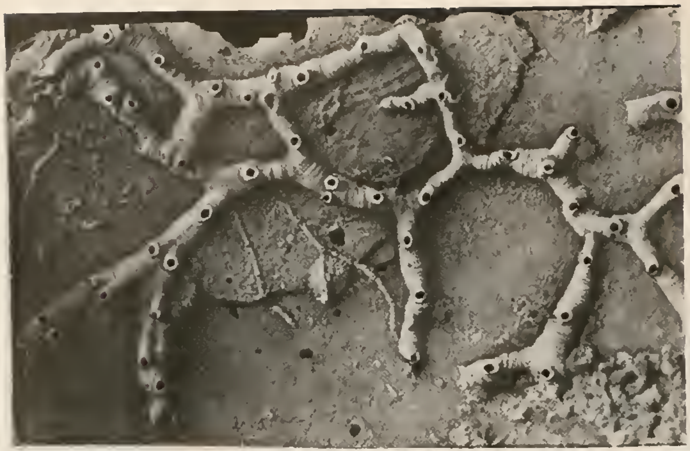


11 ×6

Jacksonian Cyclostomatous Bryozoa.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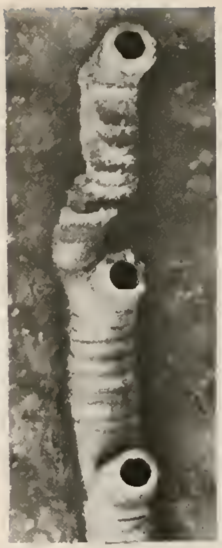
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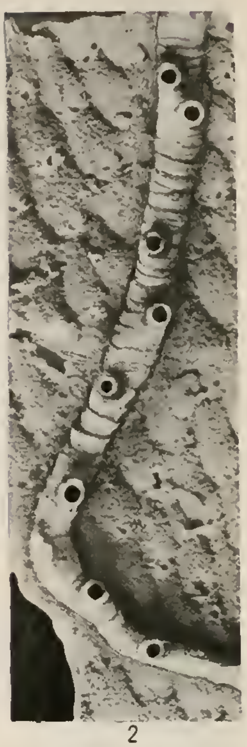
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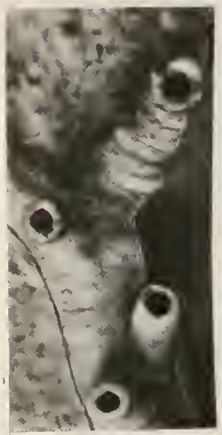
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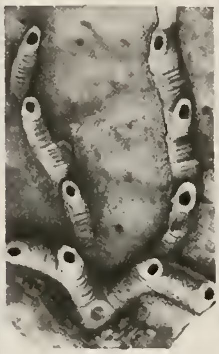
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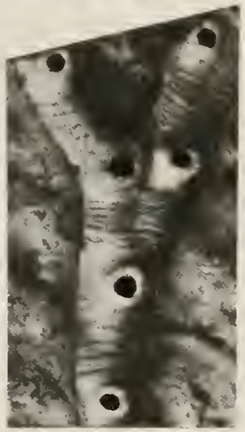
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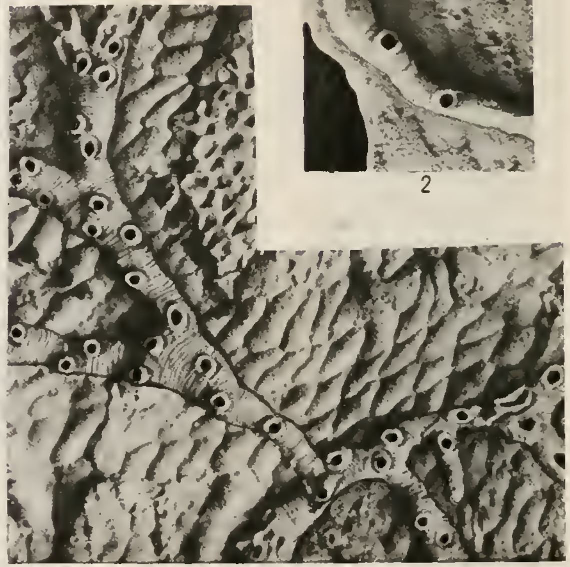
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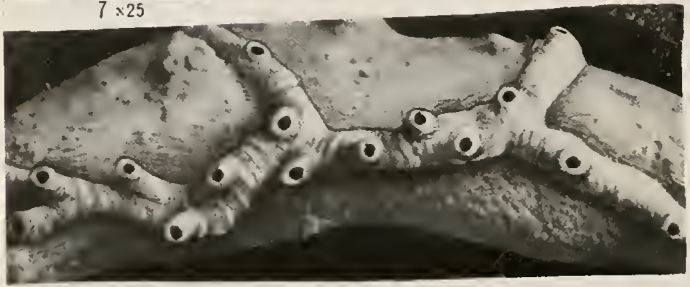
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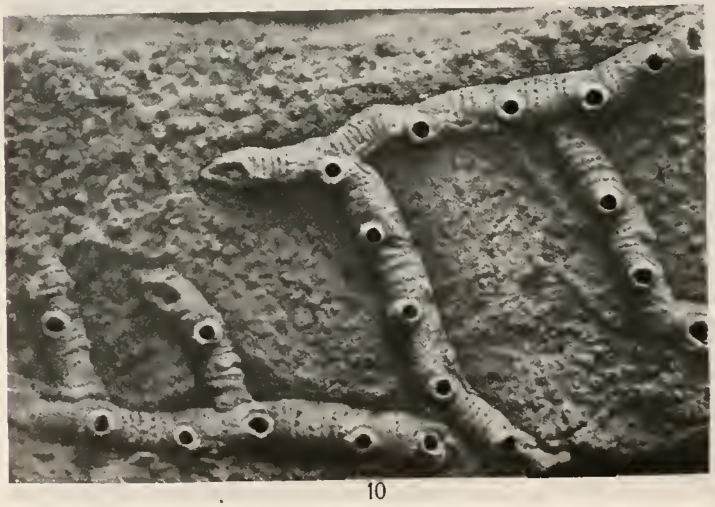
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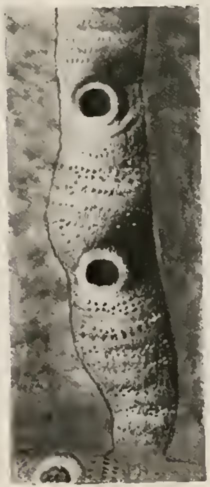
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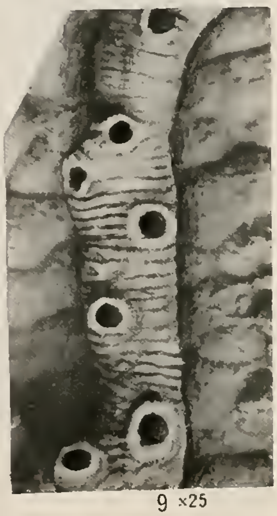

9 ×25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 116.

FIGS. 1–3. *Stomatopora pratti*, new species (p. 657).

1. A well-developed zoarium, × 6.
2. An unbranched specimen, × 12.
3. Several zooecia, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65268, U.S.N.M.

FIGS. 4, 5. *Stomatopora striatula*, new species (p. 657).

4. A zoarium, × 12, showing the acute angle of dichotomization.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65269, U.S.N.M.

5. Portion of a zoarium, × 25. The tubes are striated, but the peristomie is almost smooth.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65270, U.S.N.M.

FIGS. 6, 7. *Proboscina projecta*, new species (p. 660).

6. A zoarium, × 12, showing the indistinct, alternately arranged, striated tubes.
7. Several zooecia, × 25, illustrating the round thick peristome.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65271, U.S.N.M.

FIGS. 8, 9. *Proboscina rugosa*, new species (p. 660).

8. View, × 12, illustrating the unsymmetrical zoarium with biserial zooecia.
9. Portion, × 25, showing the pronounced transverse striation.

Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 65272, U.S.N.M.

FIGS. 10, 11. *Stomatopora fasciolata*, new species (p. 658).

10. Zoarium, × 12, exhibiting the wide oval tubes with transverse bands.
11. Portion, × 25, in which the transverse bands are granulated.

Upper Jacksonian (Ocala limestone): One and one-half miles above Bainbridge, Georgia.
Cat. No. 65273, U.S.N.M.

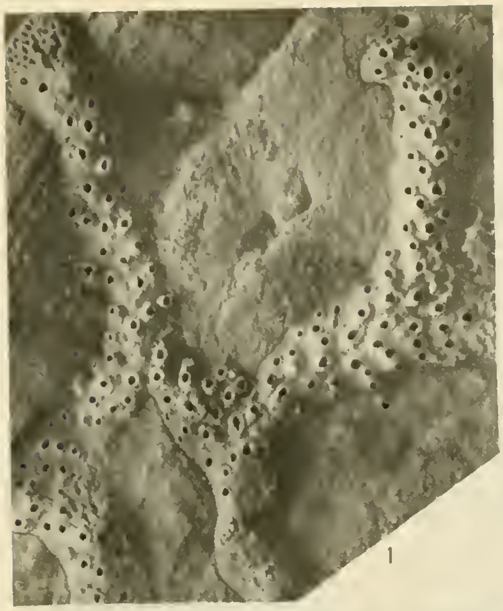
Plate 117.

Figs. 1–4. *Proboscina idmonoides*, new species (p. 668).
1. The multiserial zoarium, × 12, showing symmetric arrangement.
2. Branch, × 25, with numerous longitudinal rows of tubes.
3, 4. Two zoaria, × 12, in which the longitudinal rows are few.
Upper Jacksonian (Ocala limestone): Old factory, 1½ miles above Bainbridge, Georgia.
Cat. No. 65293, U.S.N.M.

Fig. 5. *Berenicea ingens*, new species (p. 671).
The flabelliform zoarium, × 25, showing the large tubes.
Lower Jacksonian: Three and one-half miles southeast of Shell Bluff Post Office, Georgia.
Cat. No. 65294, U.S.N.M.

Figs. 6, 7. *Proboscina magniramosa*, new species (p. 668).
6. The multiserial zoarium, × 12, formed of large undulating branches.
7. Portion of a branch, × 25.
Jacksonian (Zeuglodon bed): South side of Suck Creek, Clarke County, Mississippi.
Cat. No. 65295, U.S.N.M.

Figs. 8, 9. *Berenicea benjamini*, new species (p. 671).
8. The type-specimen, × 12, illustrating the distinct cylindrical tubes.
9. Part of a branch, × 25.
Middle Jacksonian: Near Eutaw Springs, South Carolina.
Cat. No. 65296, U.S.N.M.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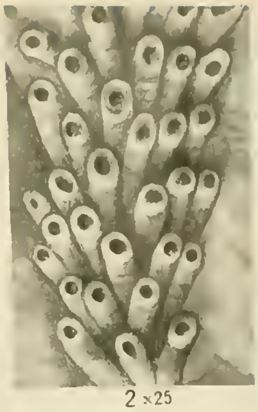
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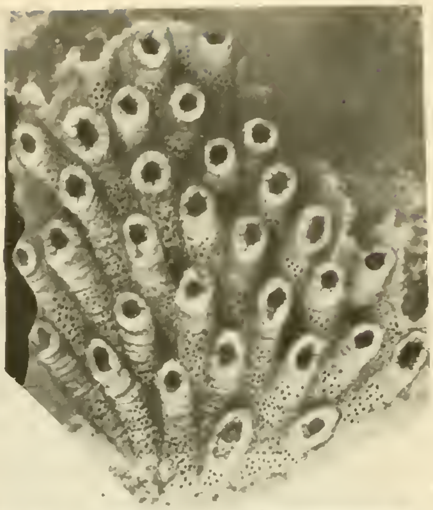
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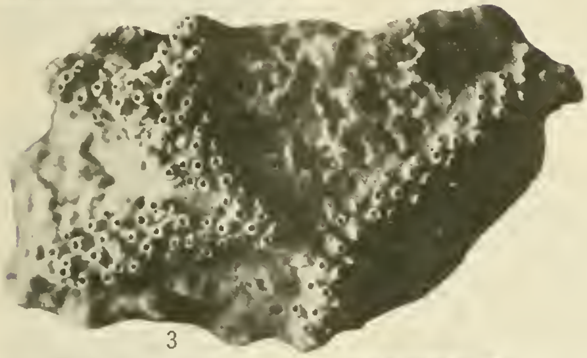
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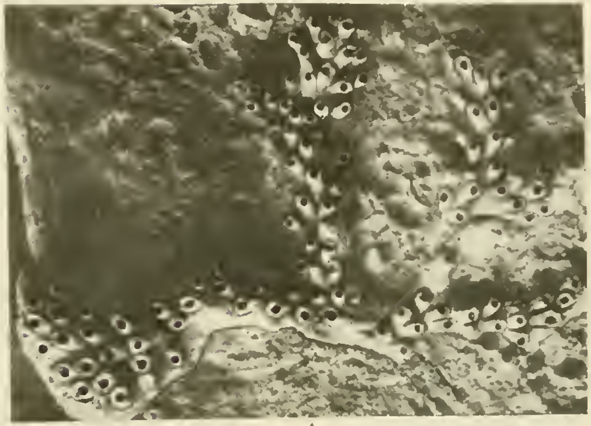
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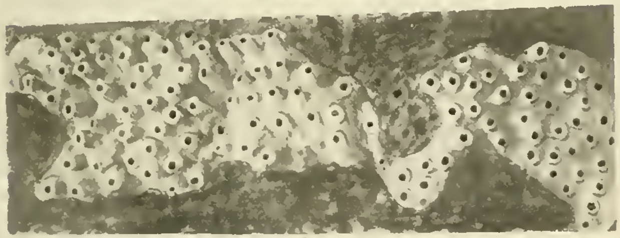
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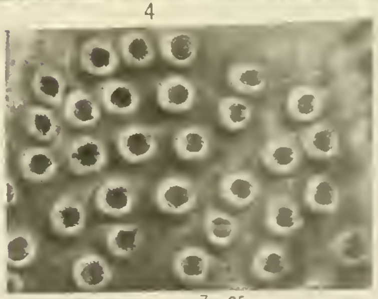
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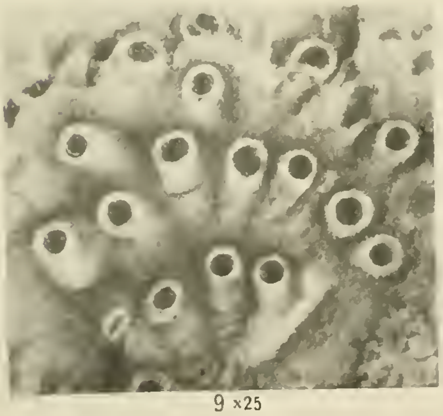
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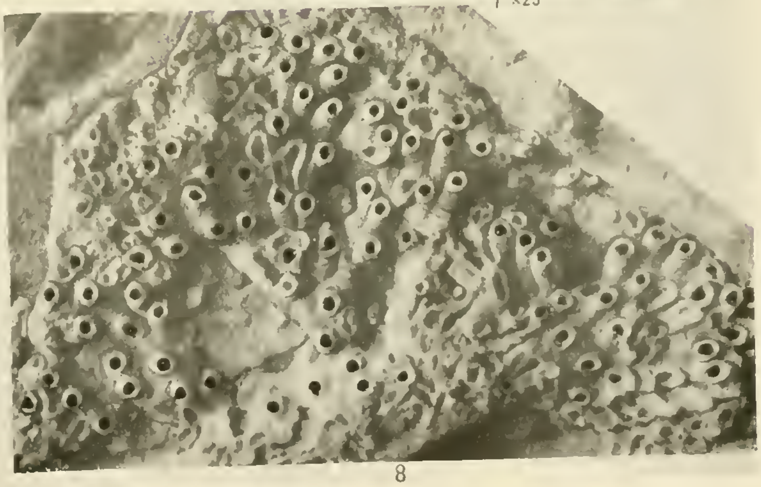
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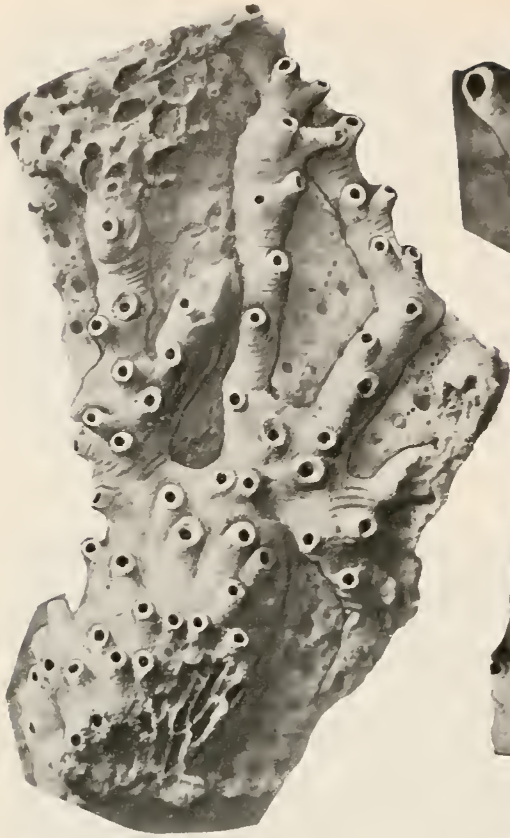
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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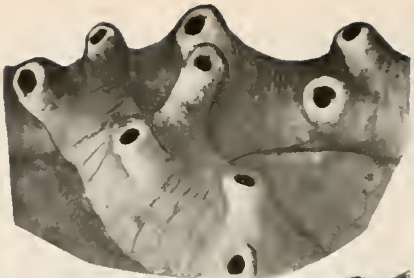
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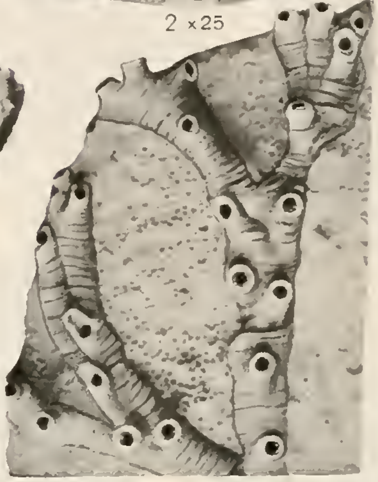
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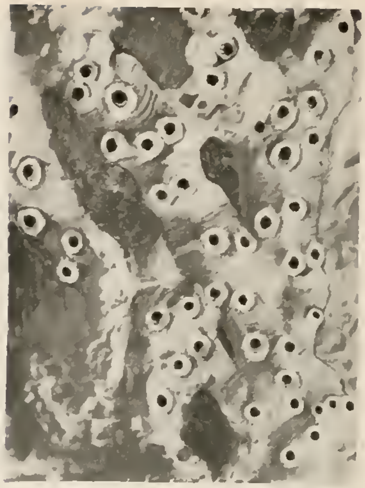
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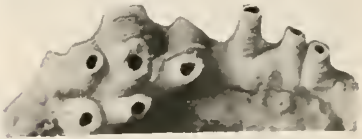
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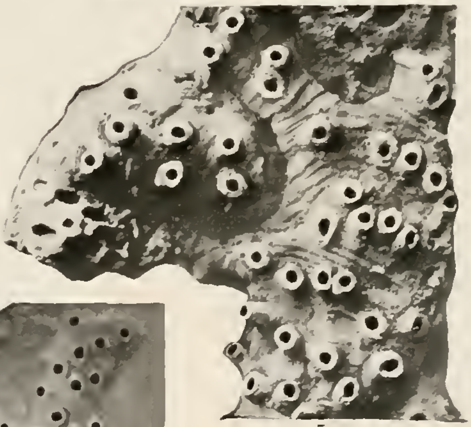
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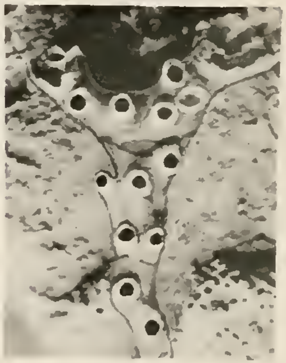
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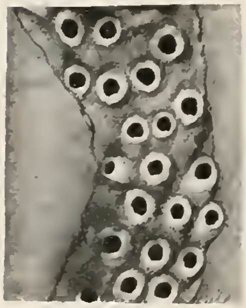
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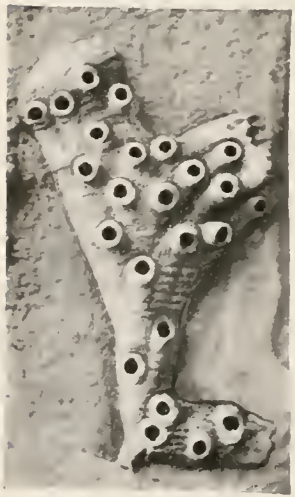
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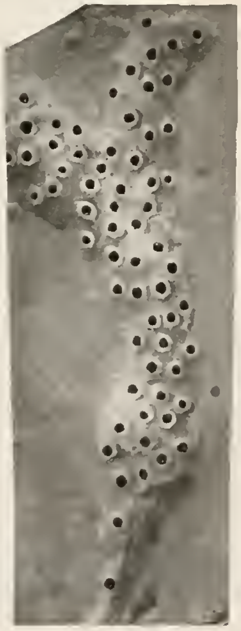
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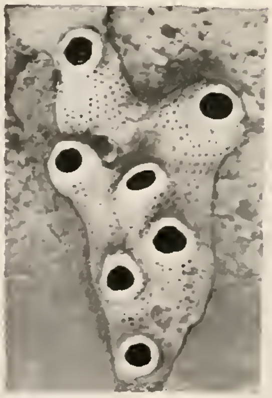
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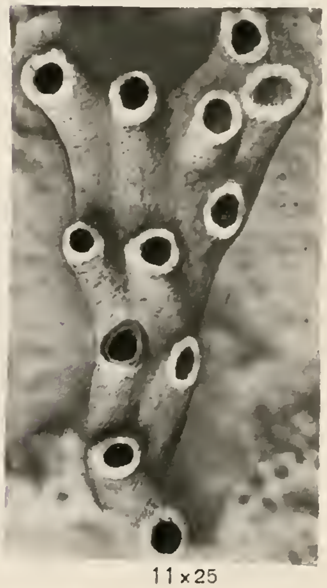

11 ×25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 118.

FIGS. 1–6. *Proboscina parvianqulata*, new species (p. 664).

1. A well preserved zoarium, × 12, with salient peristomes.
2. Small portion, × 25.
3. Biserial zoarium, × 12, having tubes much wrinkled transversally.
4. An example, × 12, in which the peristomes are broken.
5. A multiserial specimen, × 12.
6. Edge of a zoarium, × 12, showing that the tubes are raised almost vertically.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65289, U.S.N.M.

FIGS. 7–9. *Proboscina exigua*, new species (p. 665).

7, 8. The multiserial zoarium, × 12 and a portion × 25.
9. A short claviform branch, × 25.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65290, U.S.N.M.

FIGS. 10–12. *Proboscina latobrevis*, new species (p. 667).

10, 11. The type-specimen, × 12 and × 25, showing the short but wide tubes.

Upper Jacksonian (Ocala limestone): Old factory, 1½ miles above Bainbridge, Georgia.
Cat. No 65291, U.S.N.M.

12. An example with very short tubes, × 25, referred to this species.

Vicksburgian (Marianna limestone): Claiborne, Monroe County, Alabama.
Cat. No. 65292, U.S.N.M.

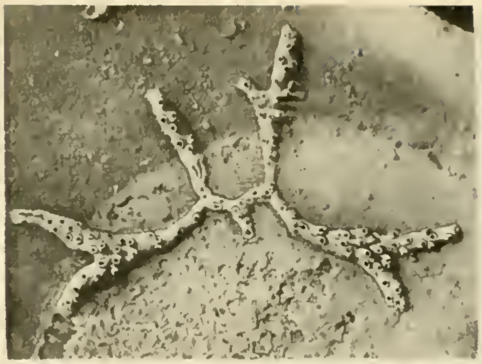
PLATE 119.

FIGS. 1, 2. *Proboscina clavatula*, new species (p. 663).
1. A complete example, × 6, showing the zoarial aspect.
2. A branch, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65284, U.S.N.M.

FIGS. 3, 4. *Proboscina undulata*, new species (p. 664).
3. The quadriserial zoarium, × 12.
4. Portion of the same specimen, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65285, U.S.N.M.

FIGS. 5–8. *Proboscina striatula*, new species (p. 663).
5. The bifurcating zoarium, × 12, with triserial zooecia.
6. Part of a branch, × 25. The tubes are visible and striated.
Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 65286, U.S.N.M.
7. Another specimen, × 12.
8. Part of the same, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65287, U.S.N.M.

FIGS. 9–11. *Proboscina prominens*, new species (p. 664).
9. Zoarium, × 12, showing triserial arrangement of zooecia.
10. Part of a branch, × 25. The tubes are indistinct. The wrinkles cover the surface of the zoarium but the peristomie is not striated.
11. Another zoarium, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65288, U.S.N.M.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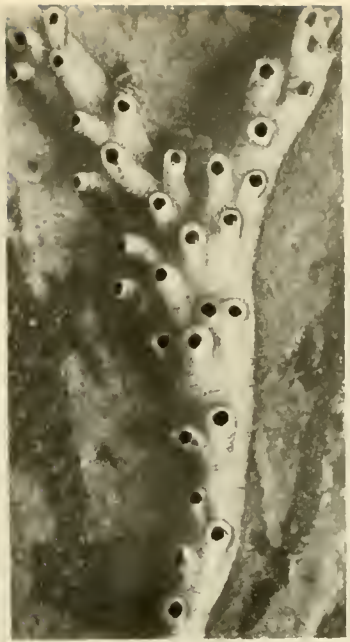
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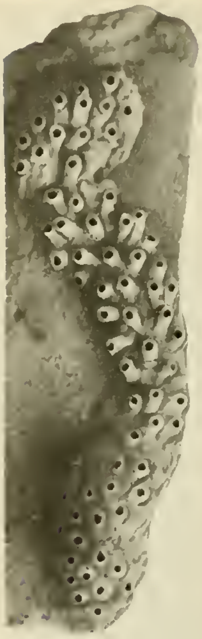
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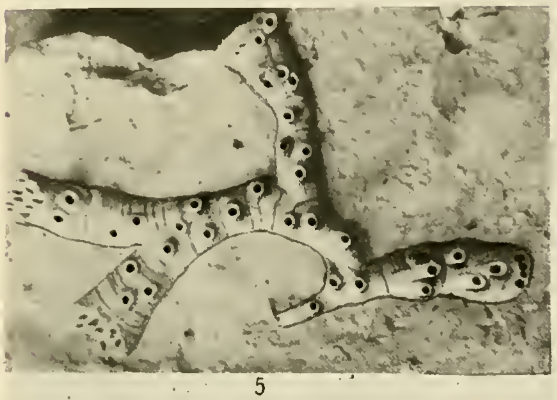
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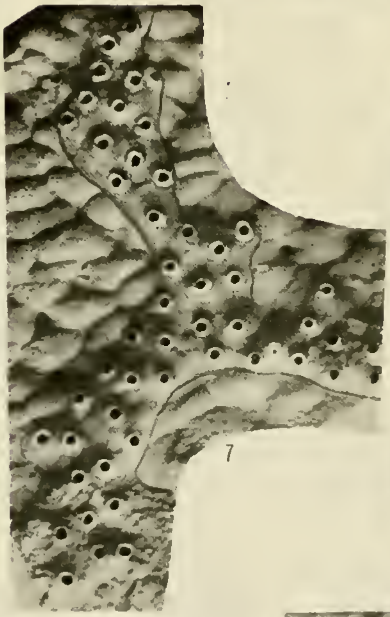
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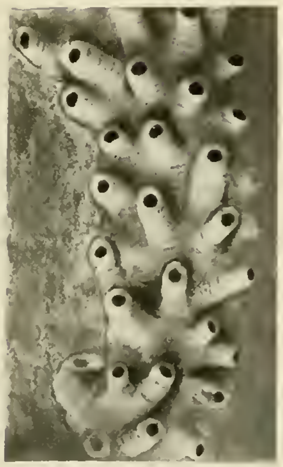
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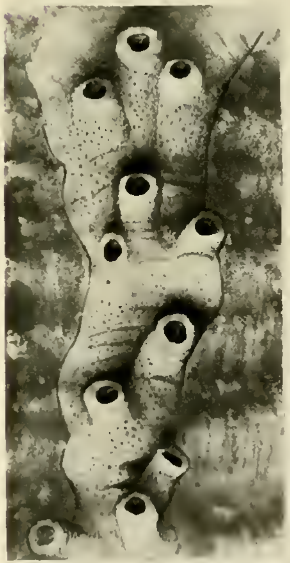
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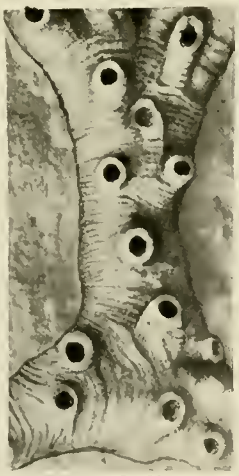
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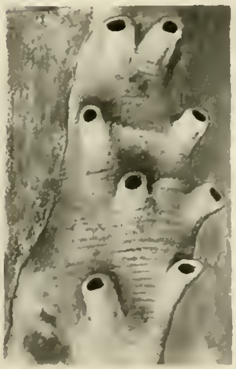
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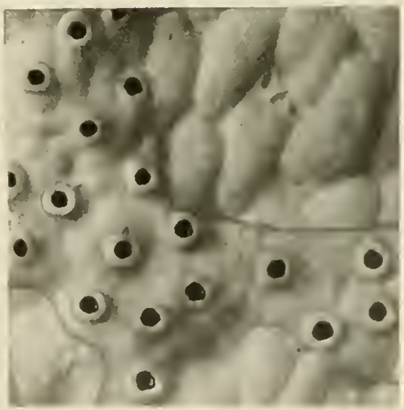
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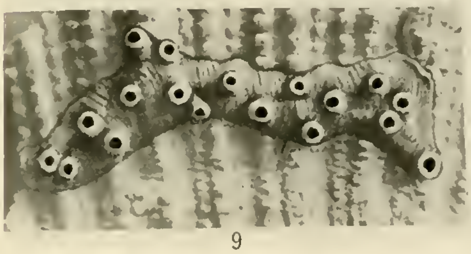
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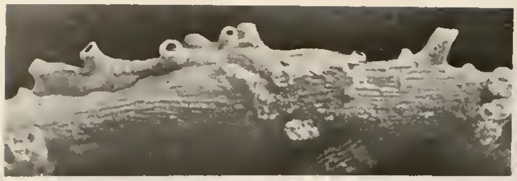
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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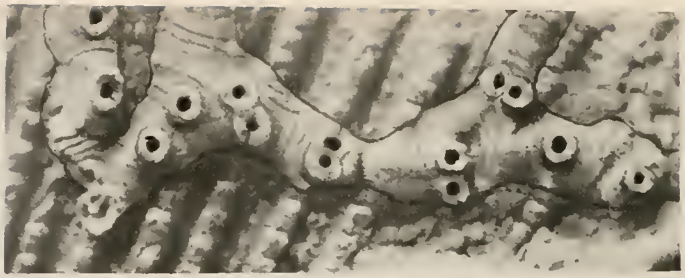
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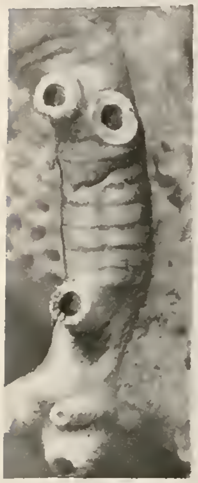
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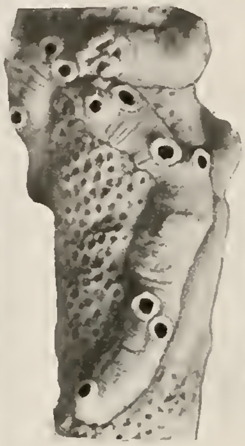
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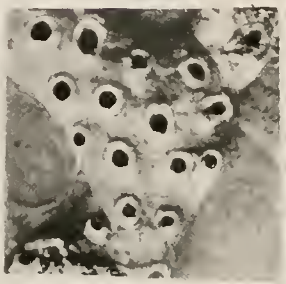
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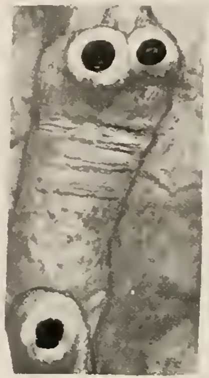
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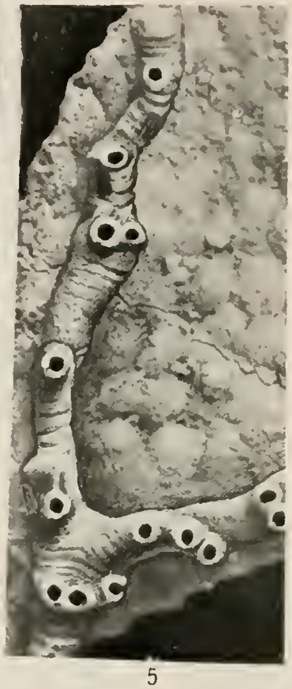
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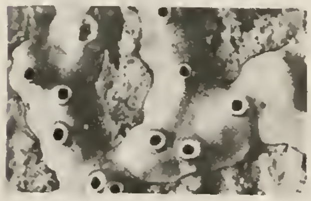
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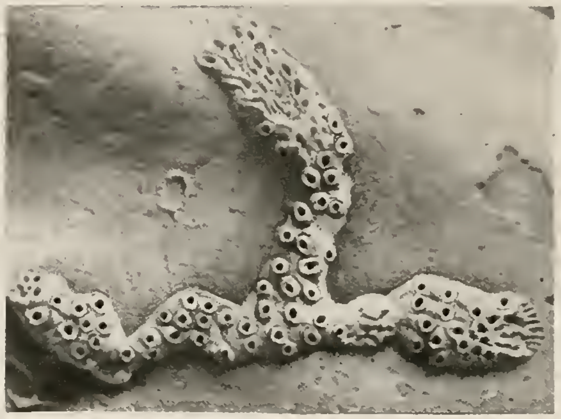
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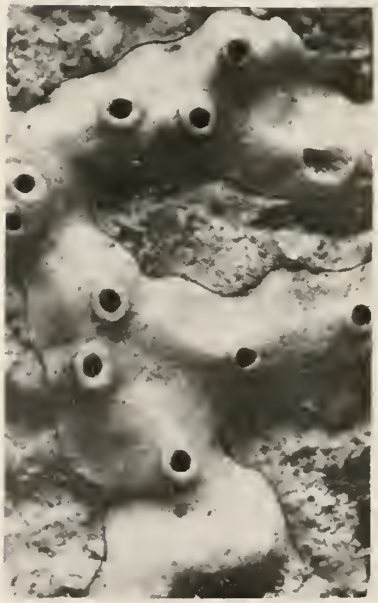
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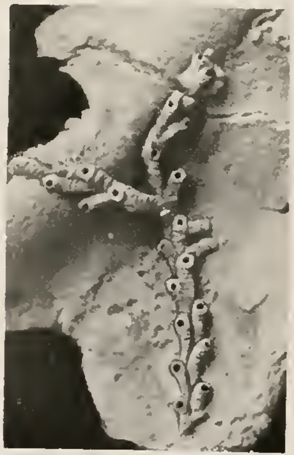
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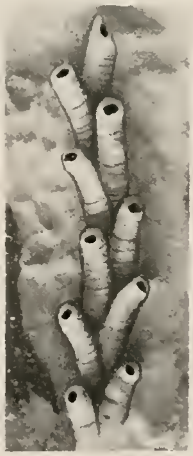
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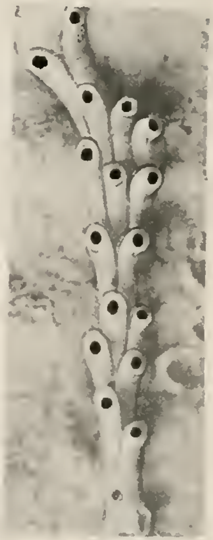

13 ×25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 120.

FIGS. 1-3. *Proboscina geminata*, new species (p. 661).
1. Edge view of a zoarium, × 12.
2, 3. Another specimen, × 12 and × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65278, U.S.N.M.

FIGS. 4-6. *Proboscina anceps*, new species (p. 661).
4. Branch with biserial zooecia, × 12.
5. A monoserial branch, × 12.
6. Portion of the same specimen, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65279, U.S.N.M.

FIGS. 7, 8. *Proboscina colubra*, new species (p. 663).
7. The type-specimen, × 12, illustrating triserial arrangement of zooecia.
8. A portion, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65280, U.S.N.M.

FIGS. 9, 10. *Proboscina expatiata*, new species (p. 661).
9. Zoarium, × 12, showing width of branches.
10. A portion, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65281, U.S.N.M.

FIGS. 11, 12. *Proboscina alternata*, new species (p. 662).
11. Type-specimen, × 12, showing biserial arrangement of tubes.
12. Portion, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65282, U.S.N.M.

FIG. 13. *Proboscina divergens*, new species (p. 662).
The biserial zoarium, × 25, showing the small tubes.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65283, U.S.N.M.

Plate 121.

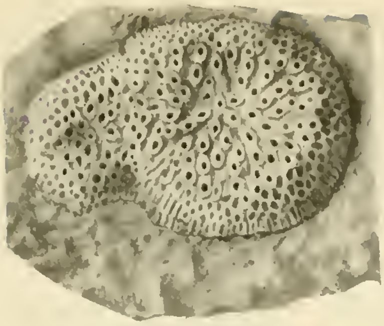
Figs. 1–7. *Plagioecia divagans*, new species (p. 712).
1. A zoarium, × 12, with very thick zone of growth.
2. Very young zoarium, × 12.
   Vicksburgian: Three miles southeast of Vosburg, Jasper County, Mississippi.
   Cat. No. 65297, U.S.N.M.
3. A flabelliform zoarium, × 12. The zone of growth is thick but little expanded.
4. Portion of figure 3, × 25.
5. Compound zoarium, × 12, incrusting the radicells of an alga. Many sub-colonies are visible.
6. Portion of the zoarium of figure 5, × 25. Numerous closed zooecia are present.
7. Zoarium with thick zone of growth, × 25. The peristomes are elliptical and approach each other on the zoarial margins.
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 65298, U.S.N.M.

Fig. 8. *Diastopora tubiformis*, new species (p. 673).
The hollow cylindrical zoarium, × 12.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65299, U.S.N.M.

Fig. 9. *Diastopora striatisemota*, new species (p. 674).
Zoarium, × 25, a wide expanded frond.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65300, U.S.N.M.

Figs. 10, 11. *Berenicea incondita*, new species (p. 672).
10. The incrusting zoarium, × 12, of wide irregular lobes.
11. View of same, × 25. The tubes are arranged in quincunx.
    Middle Jacksonian: Rich Hill, 5½ miles southeast of Knoxville, Georgia.
    Cat. No. 65301, U.S.N.M.

Figs. 12, 13. *Diaperoecia jacksonensis*, new species (p. 742).
12. The incrusting zoarium, × 12, composed of claviform branches.
13. View of the same, × 25.
    Lower Jacksonian (Moodys marl): Jackson, Mississippi.
    Cat. No. 65302, U.S.N.M.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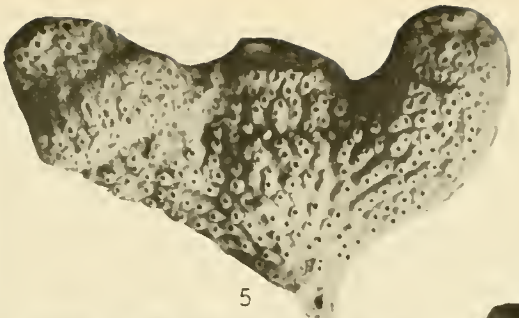
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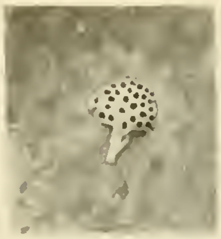
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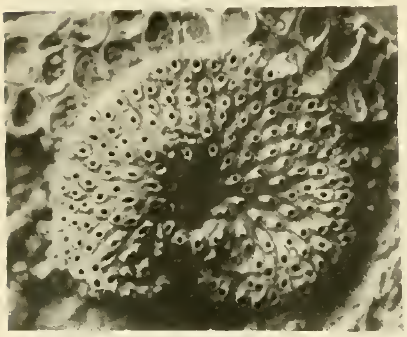
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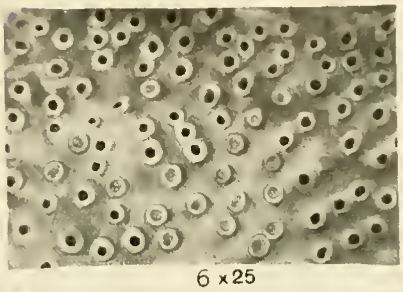
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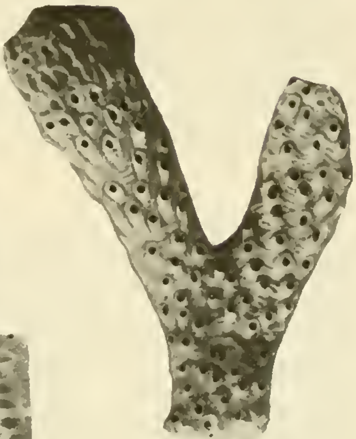
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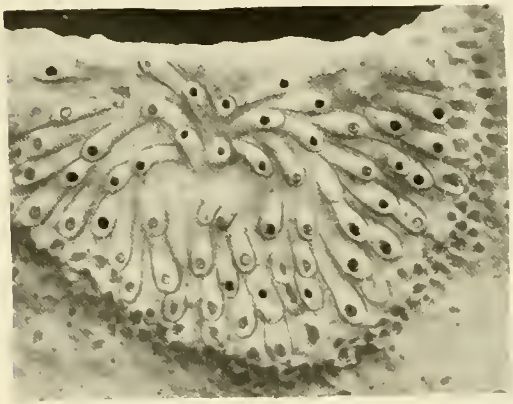
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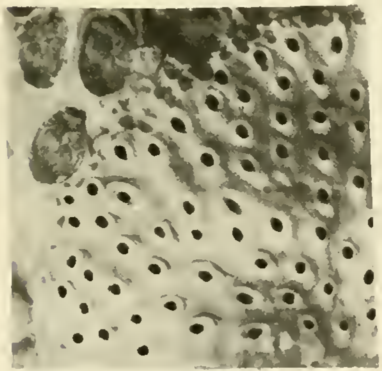
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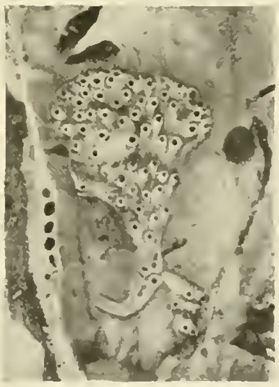
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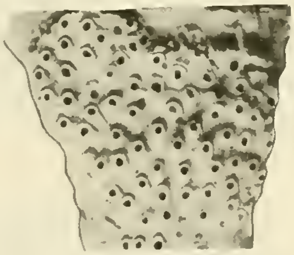
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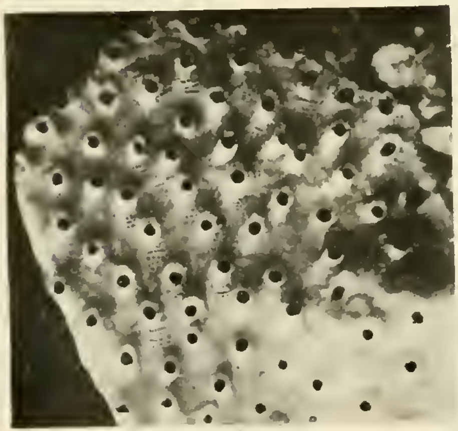
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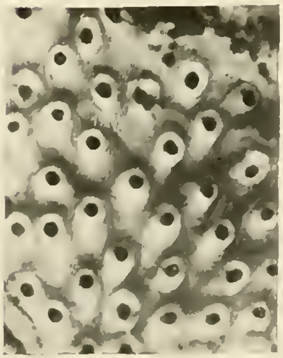
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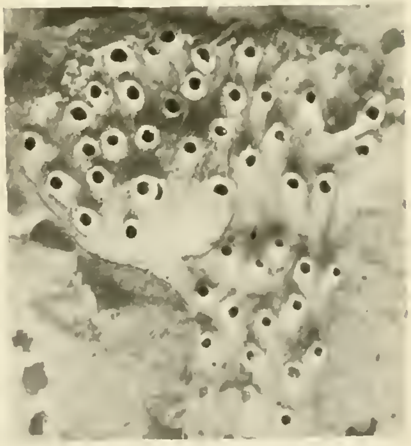
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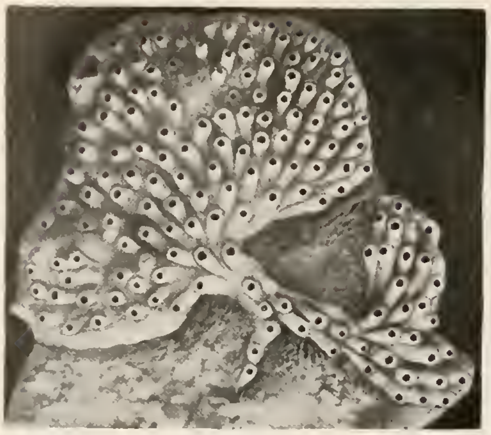
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.



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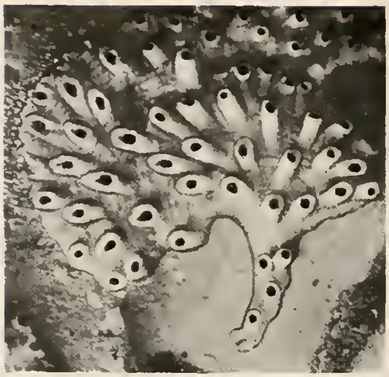

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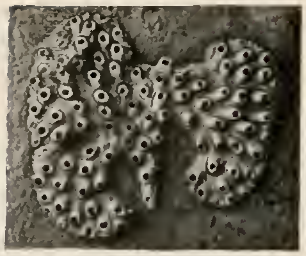

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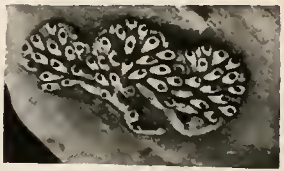

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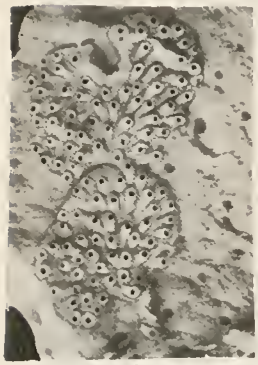

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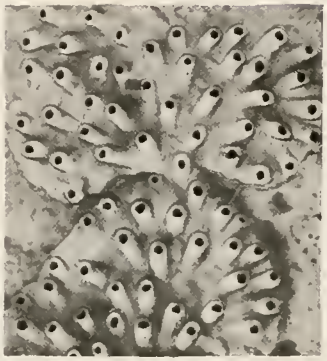

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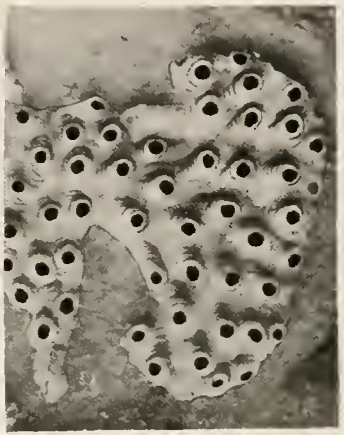

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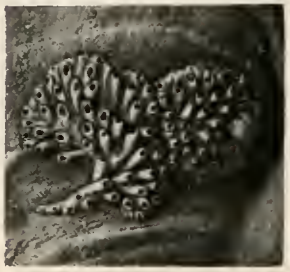

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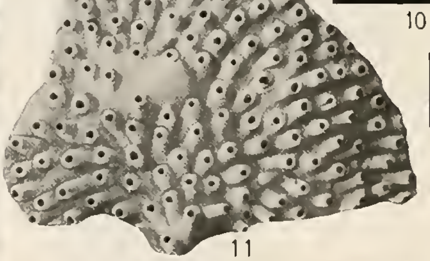

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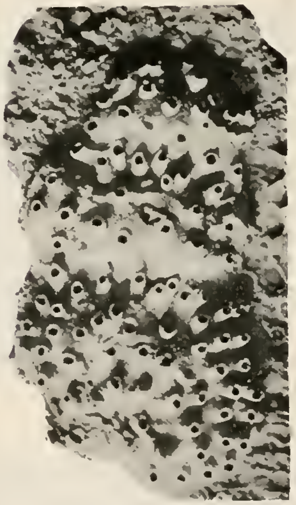

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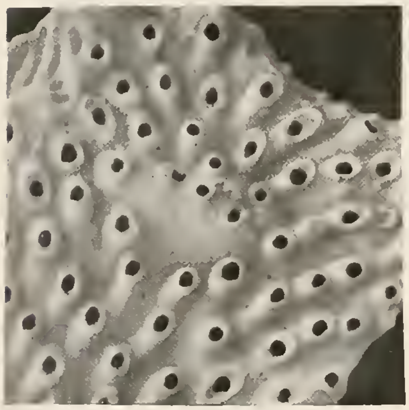

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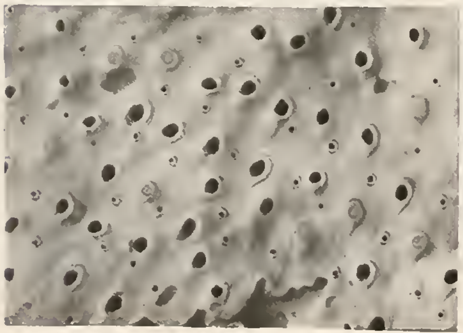

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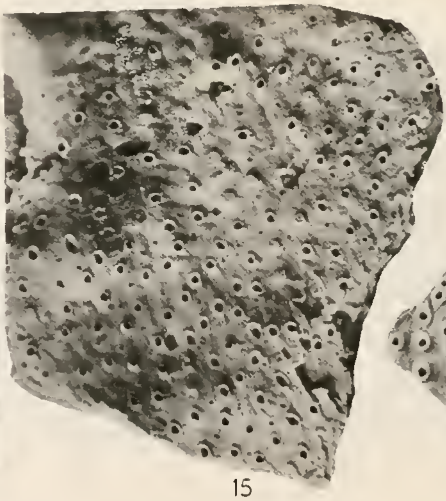

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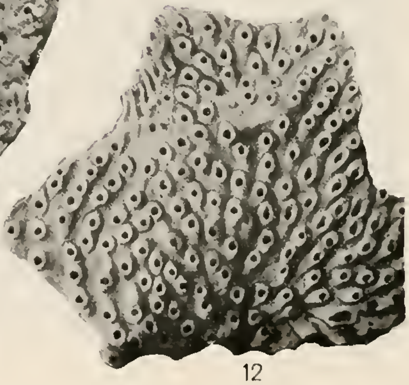

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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

Plate 122.

Figs. 1–7. *Diaperoecia lobulata*, new species (p. 742).
1. An incrusting symmetrical zoarium. × 12.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 65426, U.S.N.M.
2. Another zoarium, × 25, with protoecium broken.
3, 4. A specimen showing the ovicell and ancestrula, × 12, and portion, × 25.
5, 6. Two zoarial aspects, × 12.
7. An elongated lobe, × 12, showing three successive ovicells.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina
Cat. No. 65427, U.S.N.M.

Figs. 8, 9. *Diaperoecia lobulata parvipora*, new variety (p. 743).
8. The incrusting zoarium with small peristomes, × 12.
9. Portion of the same, × 25, showing the phenomenon of rejuvenescence.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65428, U.S.N.M.

Figs. 10–13. *Plagioecia lamellosa*, new species (p. 714).
10. Group of the unilamellar zoaria, natural size.
11. Specimen with the ovicell not parallel to the zoarial margins, × 12.
12, 13. Zoarium with incomplete ovicell, × 12 and portion, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65429, U.S.N.M.

Figs. 14–16. *Diplosolen planum*, new species (p. 747).
14. The free bilamellar zoarium, natural size.
15. Photograph of the type-specimen, × 12.
16. Surface, × 25, showing the rather indistinct tubes and tubules.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65430, U.S.N.M.

PLATE 123.

FIGS. 1–14. *Plagioecia concerta*, new species (p. 711).

1, 2. The unilamellar zoarium, natural size and × 3, composed of aggregated subcolonies.

3. A simple zoarium, × 12, with large zone of growth.

4. Basal lamella of the same zoarium, × 12.

5, 6. Simple zoarium, × 12, and portion, × 25. At the center of the zone of growth a new zoarium is superposed. Many tubes are closed by calcareous lamellae (septa).

7. Zoarium, × 6, composed of many superposed subcolonies arranged in *Domopora* form of growth.

8. Lower side of a zoarium, × 6, composed of two superposed subcolonies.

9. Interior obtained by the wearing away of the basal lamella, × 12.

10. Median section through a simple zoarium, × 25.

11. Simple zoarium with two ovicells, × 12.

12. Portion of a zoarium with an incomplete ovicell, × 25.

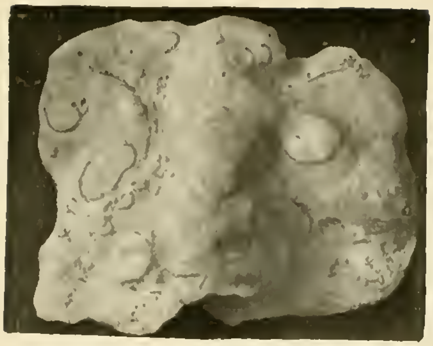
13. Fragment of zoarium, × 25, showing marginal tubes in radial rows.

14. Longitudinal section through a zoarium formed of superposed subcolonies, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Florida.

Cat. Nos. 65303, 65476, U.S.N.M.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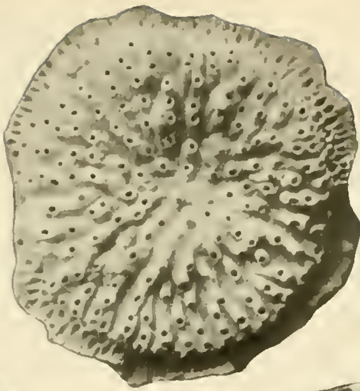
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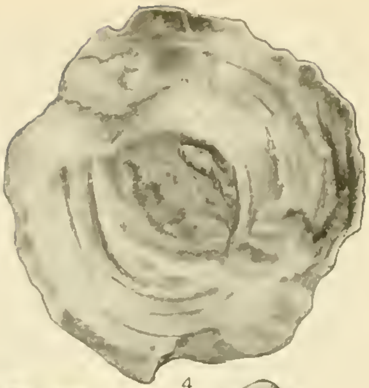
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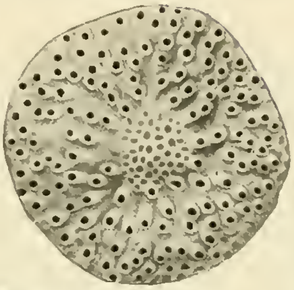
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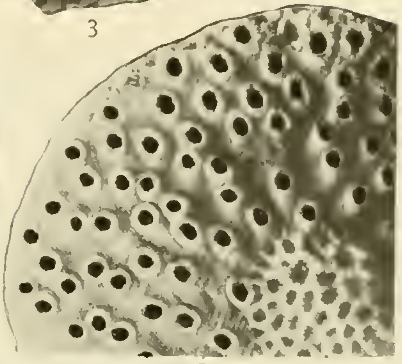
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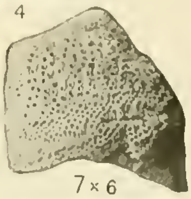
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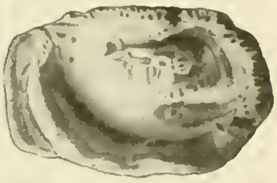
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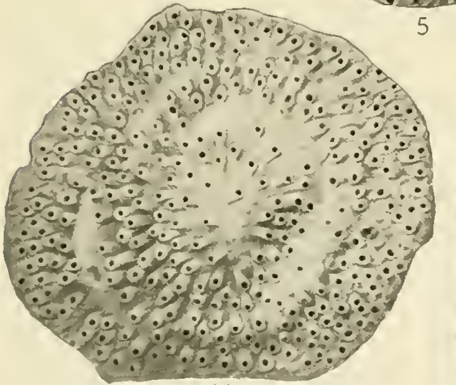
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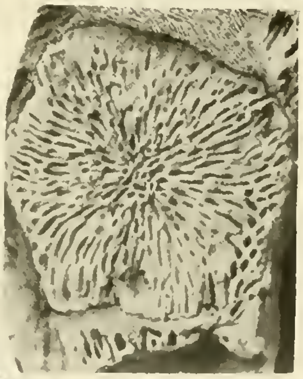
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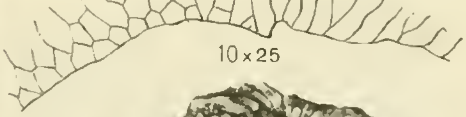
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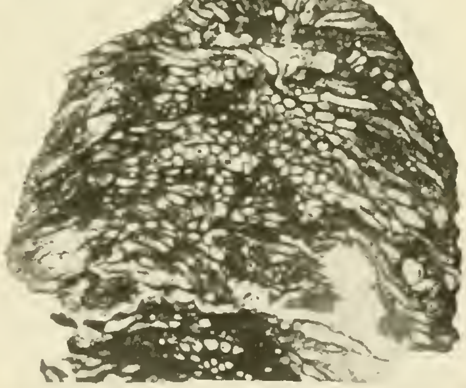
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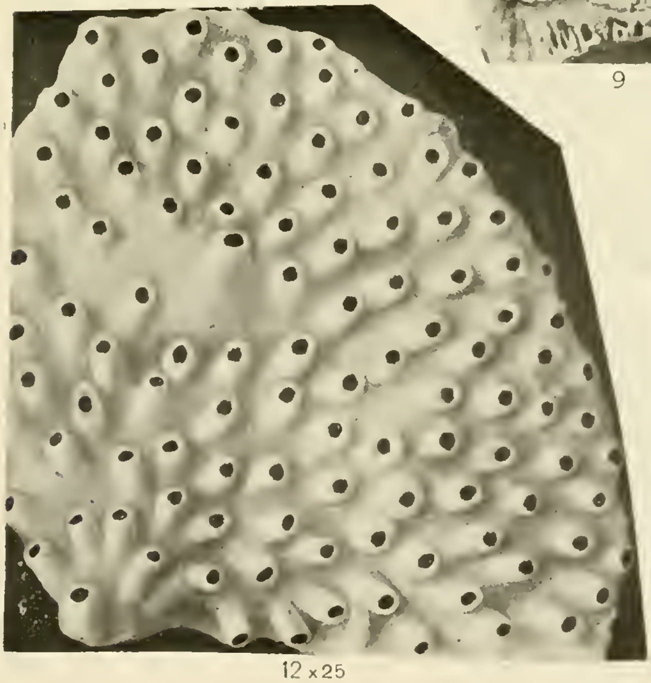
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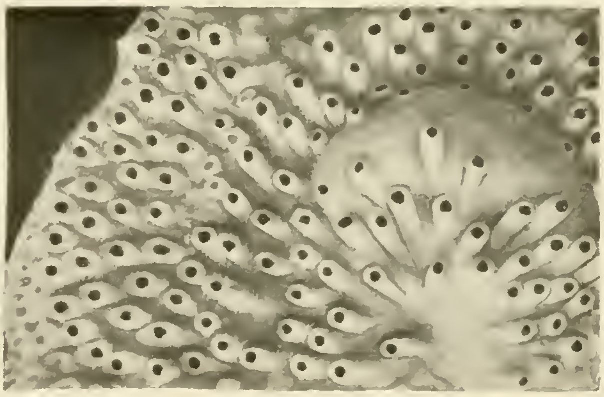
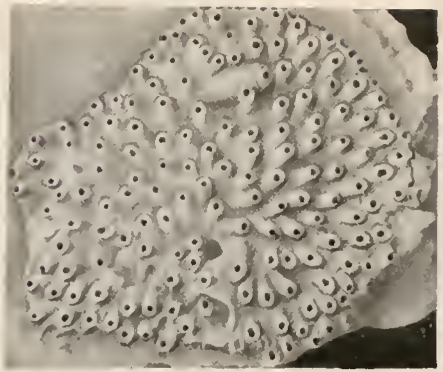

13 × 25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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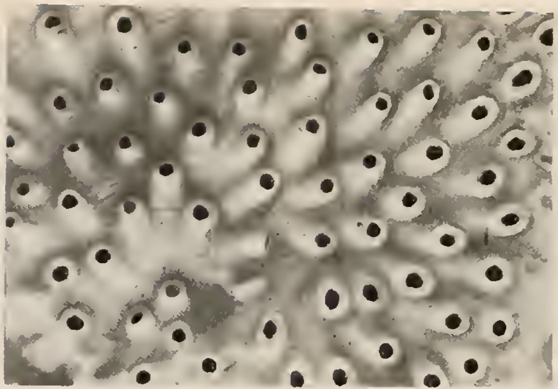
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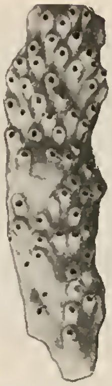
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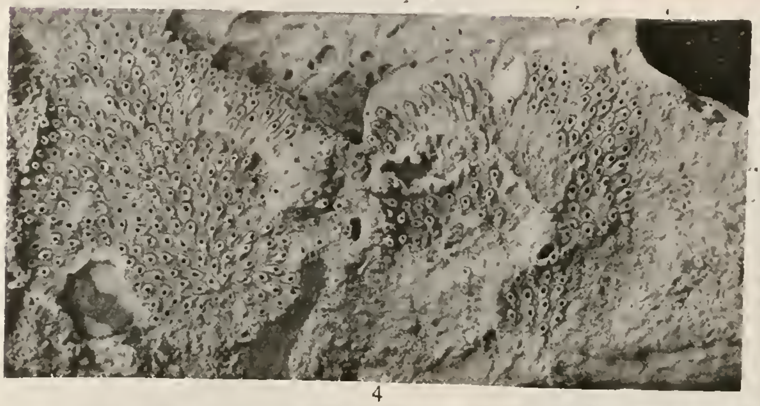
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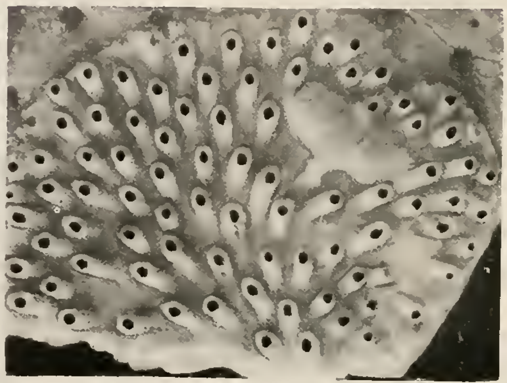
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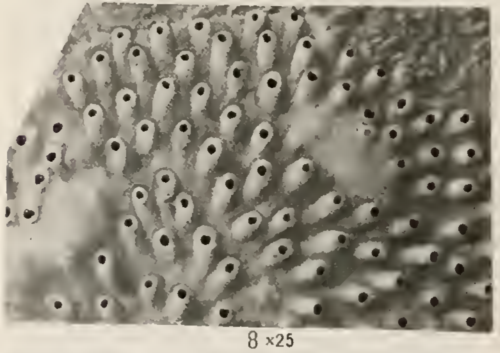
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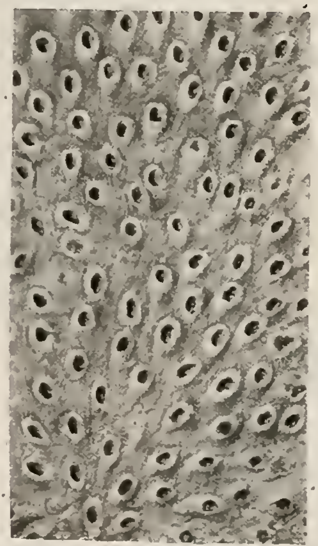
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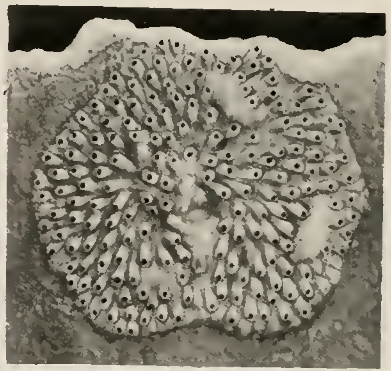
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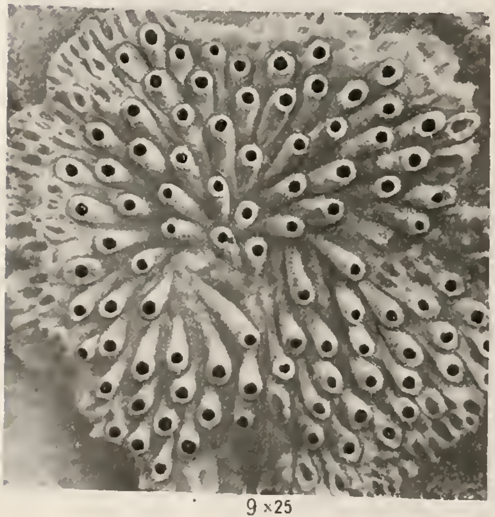
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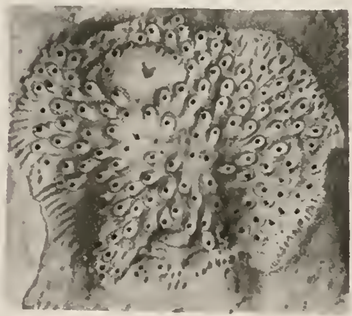
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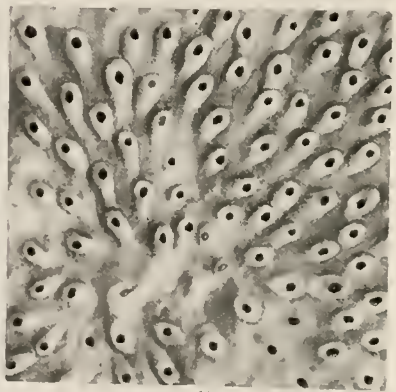

11 ×25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 124.

FIGS. 1, 2. *Plagioecia botula*, new species (p. 714).
- 1. The discoid incrusting zoarium, × 12.
- 2. Portion, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65304, U.S.N.M.

FIGS. 3–11. *Plagioecia hirta*, new species (p. 715).
- 3. A specimen, × 12, in which the ovicell is deformed by the zoarium curving about a narrow substratum.

Middle Jacksonian: Rich Hill, 5¼ miles south of Knoxville, Georgia.
Cat. No. 65305, U.S.N.M.

- 4. Two neighboring zoaria, × 12, developed without superposition.
- 5. Weathered zoarium, × 25.

Upper Jacksonian (Ocala limestone): Near Bainbridge, Georgia.
Cat. No. 65306, U.S.N.M.

- 6. Zoarium with a single ovicell, × 25. The peristome of the tubes is very salient.
- 7. Zoarium with three ovicells, × 12.
- 8. A portion of fig. 7, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65307, U.S.N.M.

- 9. Zoarium with rectilinear tubes, × 25. The zone of growth is well developed and the peristome is large.
- 10. An ovicelled zoarium, × 12.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65308, U.S.N.M.

- 11. Central portion of a large zoarium, × 25, presenting some poorly developed concentric wrinkles.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65477, U.S.N.M.

PLATE 125.

FIGS. 1–8. *Plagioecia marginata*, new species (p. 716).
1. Fragments as usually found, natural size.
2. Nearly complete bushy zoarium, natural size.
3. Unilamellar zoarium, × 12.
4. Fragment of a zoarium, × 12, in which the tubes are wrinkled transversely.
5. Zoarium preserved by a lamella of *Floridina*, × 12. The long peristome of the tubes is completely preserved.
6. Transverse section, × 25, showing the two lamellae.
7. Surface of a bilamellar zoarium, × 25.
8. Fragment, × 12, with ovicell.

Middle Jacksonian: Lenuds Ferry and Eutaw Springs, South Carolina.
Cat. Nos. 65309, 65310, U.S.N.M.

FIGS. 9–11. *Desmeplagioecia dichotoma*, new species (p. 719).
9. Zoarium, × 6, preserving the very small protoecium.
10. An ovicelled branch, × 12.
11. Zoarium, × 25.

Upper Jacksonian (Ocala limestone): Old factory near Bainbridge, Georgia.
Cat. No. 65311, U.S.N.M.

FIGS. 12–15. *Desmeplagioecia plicata*, new species (p. 720).
12. Bilamellar fragment, × 6, with zoarial form of *Reticulipora*. The zone of growth is large.
13. Opposite side of the same specimen, × 6, showing fascicles opposite.

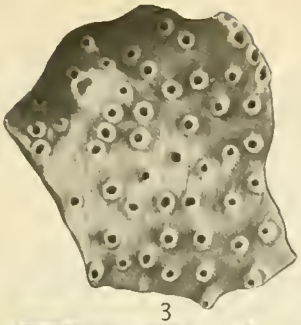
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65313, U.S.N.M.

14. Bilamellar fragment, × 12, with large zone of growth.
15. Unilamellar zoarium, × 12.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65314, U.S.N.M.

FIGS. 16–19. *Desmeplagioecia compressa*, new species (p. 719).
16. Young branch, × 12, without fascicles but with large zone of growth.
17, 18. Two branches showing the irregularity of the fascicles, × 12.
19. Surface, × 25.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65315, U.S.N.M.



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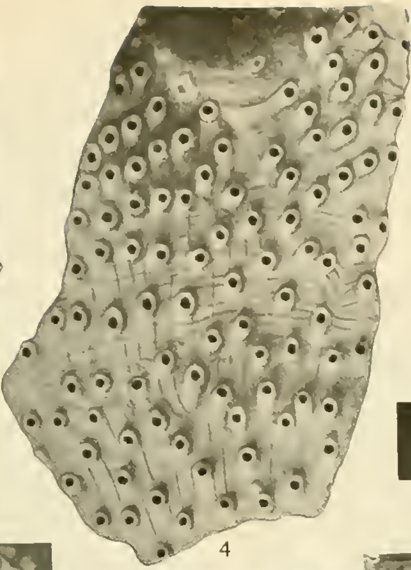

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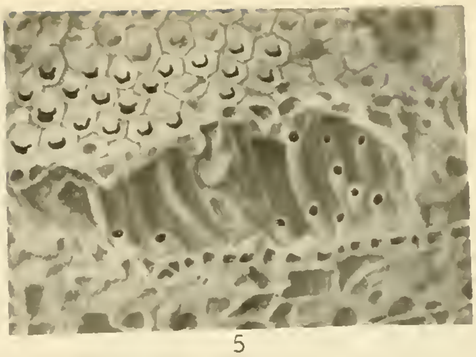

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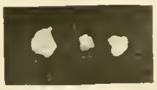

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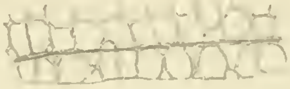

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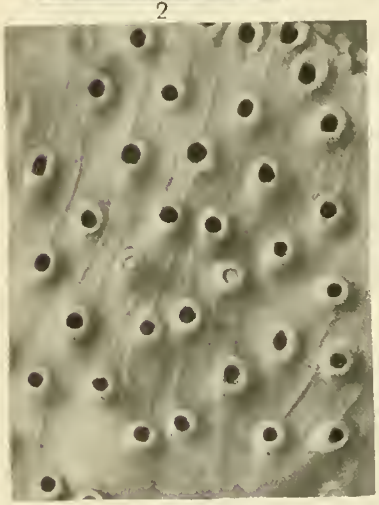

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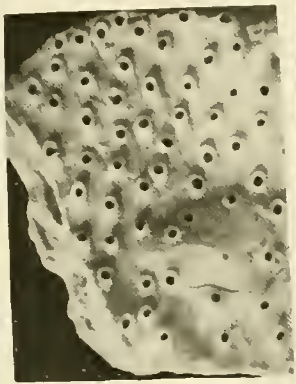

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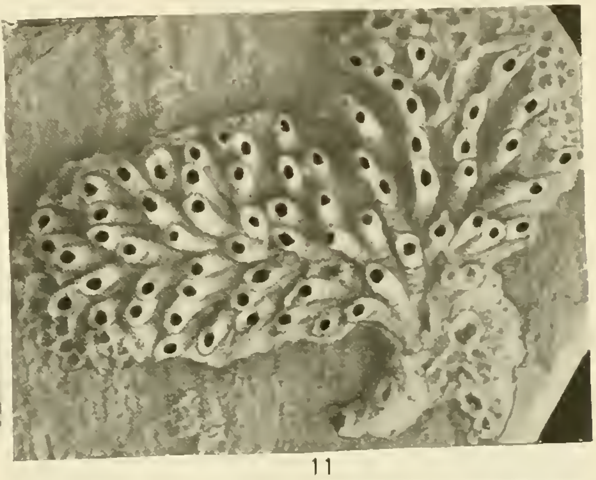

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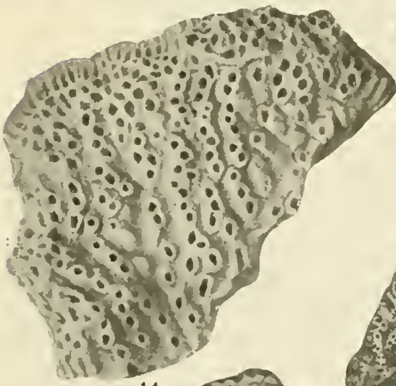

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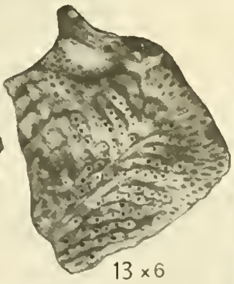

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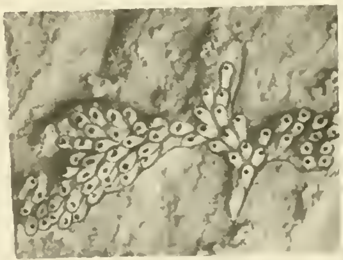

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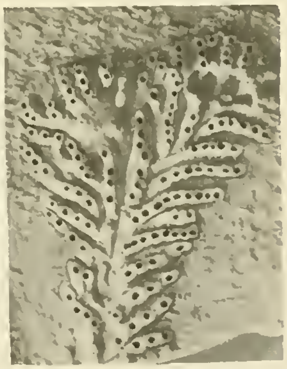

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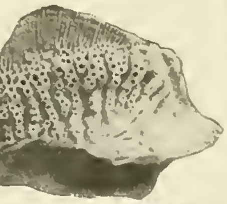
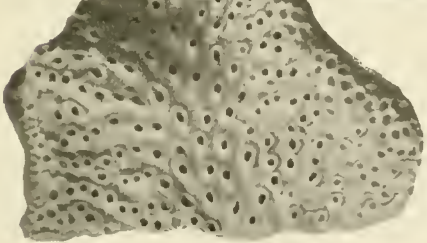


12 ×6



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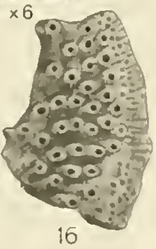

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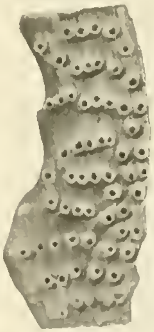

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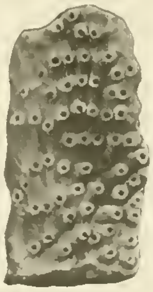

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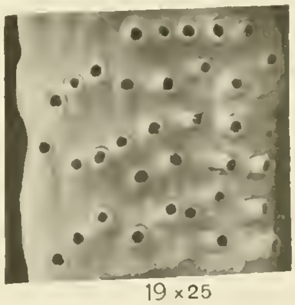
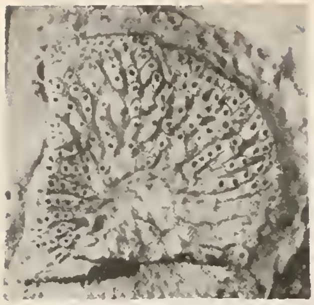


19 ×25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.



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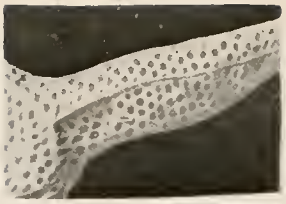

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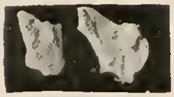

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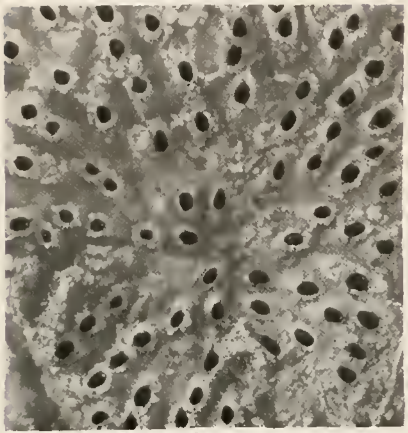

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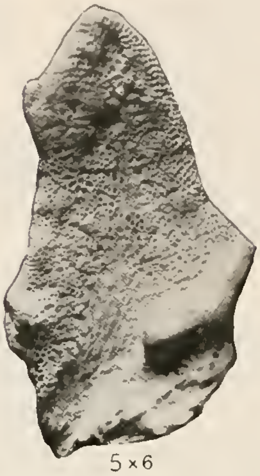

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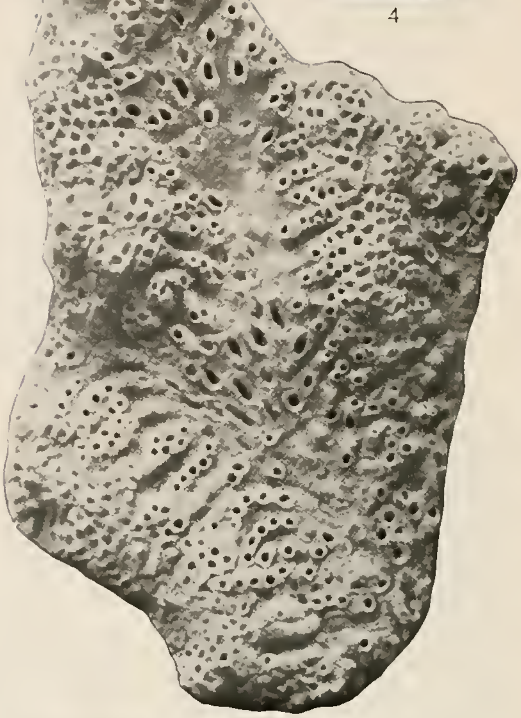

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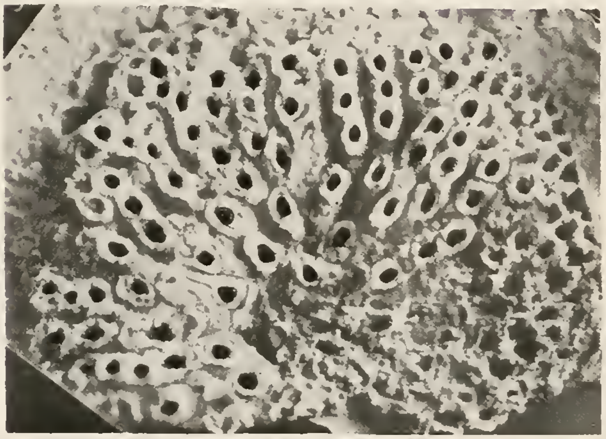
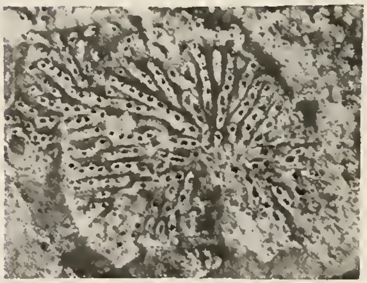


3 × 25



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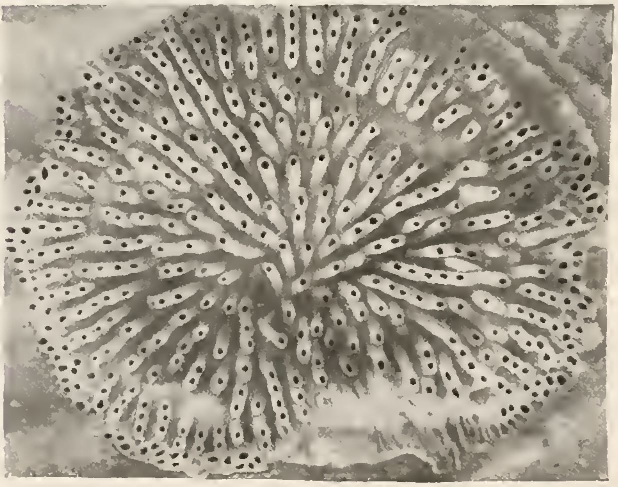

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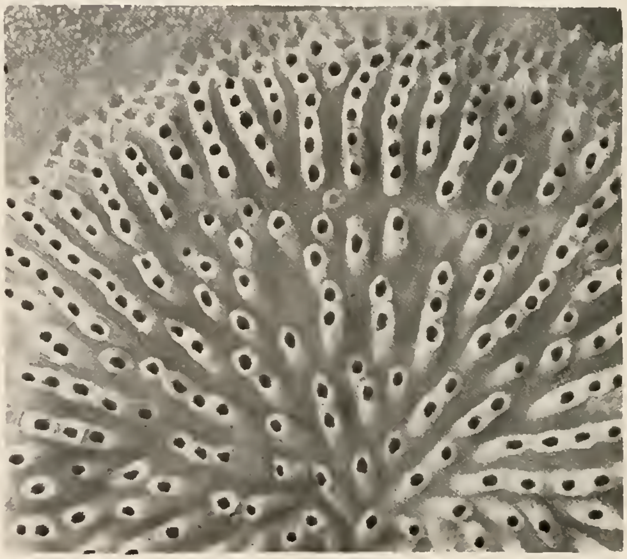


10 × 25

Jacksonian Cyclostomatous Bryozoa.

PLATE 126.

FIGS. 1–3. *Desmeplagioecia brevis*, new species (p. 720).
1. An incrusting incomplete orbicular zoarium, × 6.
2. Surface of a weathered fragment, × 25.
3. An entire zoarium, × 25, somewhat weathered.

Upper Jacksonian (Ocala limestone): Old factory, near Bainbridge, Georgia.
Cat. No. 65316, U.S.N.M.

FIGS. 4–7. *Desmeplagioecia lobata*, new species (p. 719).
4. Two examples of the free bilamellar zoarium, natural size.
5, 6. Zoarium, × 6 and × 12, showing the short fascicles and the thick tubes in the vicinity of the zoarial margins.
7. Zone of growth, × 12, showing the symmetrical arrangement on each side of the basal lamella.

Middle Jacksonian: Near Eutaw Springs, South Carolina.
Cat. No. 65317, U.S.N.M.

FIGS. 8–10. *Desmeplagioecia tenuissima*, new species (p. 721).
8. An incrusting zoarium, × 6.

Upper Jacksonian (Ocala limestone): Old factory, near Bainbridge, Georgia.
Cat. No. 65318, U.S.N.M.

9, 10. An entire discoidal zoarium, × 12 and portion × 25. The ovicell is little convex.

Upper Jacksonian (Ocala limestone): Chipola River east of Marianna, Jackson County, Florida.
Cat. No. 65319, U.S.N.M.

PLATE 127.

FIGS. 1–7. *Mecynoecia cylindrica*, new species (p. 727).

1. Fragments of the cylindrical bifurcated zoarium, natural size.
2. Ovicelled specimen, × 12. The oeciostome is elliptical.
3. Specimen with broken ovicell, × 12, showing its formation anterior to the calcification of the adjacent tubes which are altered and disarranged.
4. Normal example, × 12. The zone of growth is small; the tubes are margined.
5. Surface of the same, × 25.
6. Remarkable specimen, × 12, showing the extraordinary variations in the distance of the peristomes.
7. Longitudinal thin section, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65465, U.S.N.M.

FIGS. 8–18. *Mecynoecia brevis*, new species (p. 728).

8. Branches, natural size.
9. Branch with short ovicell, × 12. The zone of growth is little prominent and rounded.
10. Other side of the same specimen, × 12.
11. Interior of the ovicell showing the disarrangement of the tubes caused by the anterior formation of the ovicell.
12. Branch with short ovicell, × 12.

Jacksonian (Zeuglodon zone): Shubuta, Mississippi.
Cat. No. 65466, U.S.N.M.

13, 14. A compressed fragment with salient peristomes and the zone of growth visible, × 12 and × 25.
Middle Jacksonian, 18 miles west of Wrightsville, Georgia.
Cat. No. 65467, U.S.N.M.

15, 16. Fragment with the tubes arranged in transverse rows, × 12 and × 25.
Jacksonian (Zeuglodon zone): Suck Creek, Clark County, Mississippi.
Cat. No. 65468, U.S.N.M.

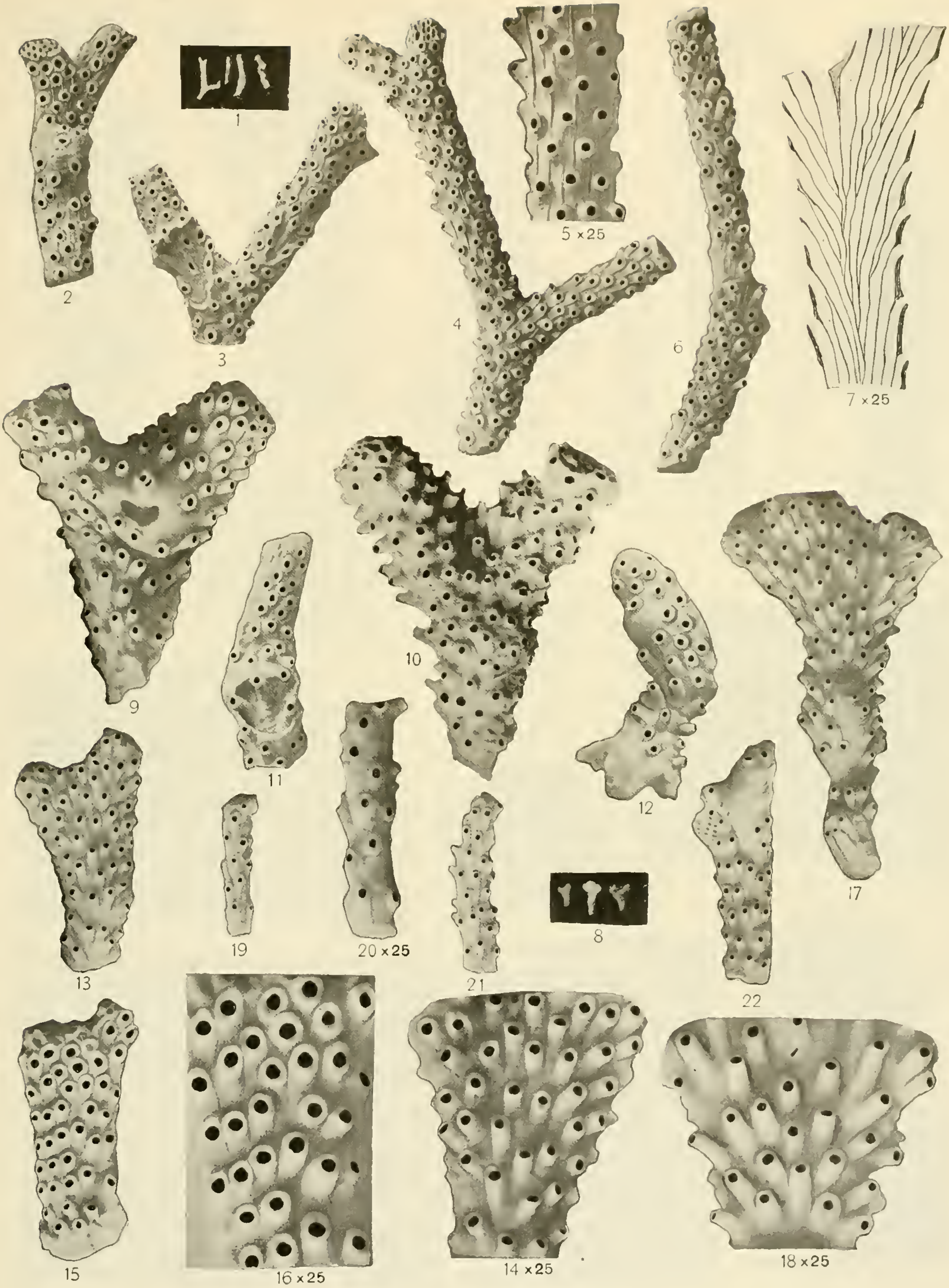
17, 18. Much compressed fragment branching irregularly, × 12 and × 25.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 65469, U.S.N.M.

FIGS. 19–22. *Mecynoecia pusilla*, new species (p. 728).

19, 20. The small zoarium, × 12 and × 25.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65470, U.S.N.M.

21. Another fragment, × 12.
22. Specimen, × 12, showing the large ovicell.

Middle Jacksonian: Three and one-half miles north of Grovania, Georgia.
Cat. No. 65471, U.S.N.M.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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

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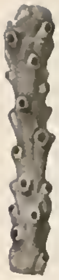
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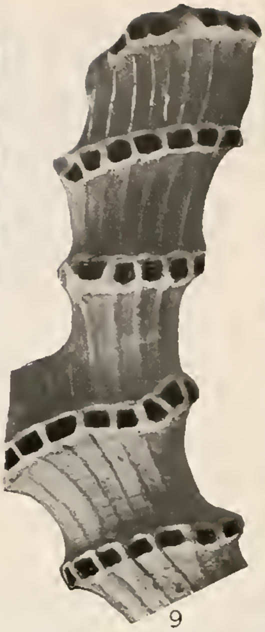
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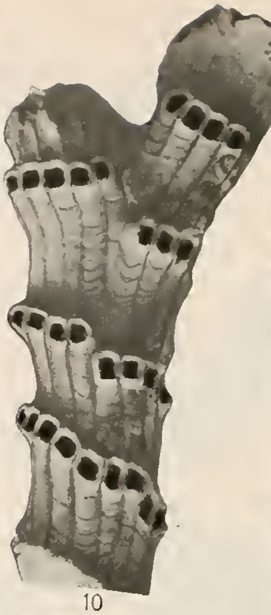
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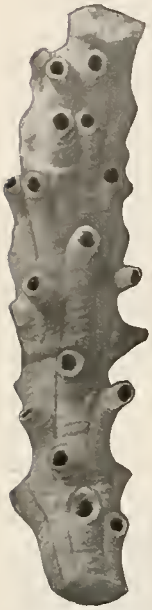
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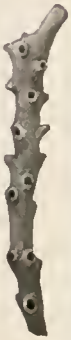
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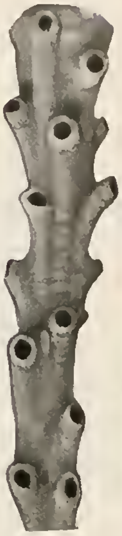
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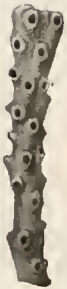
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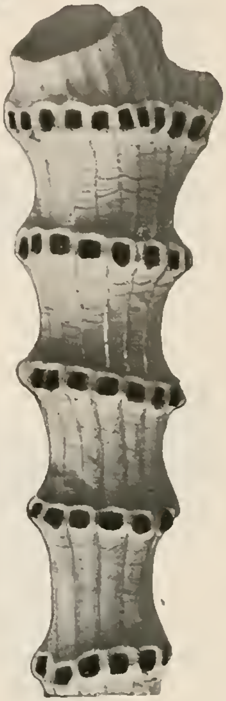
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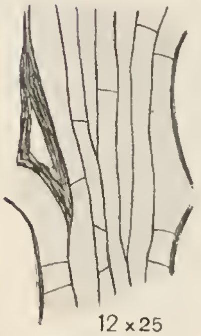
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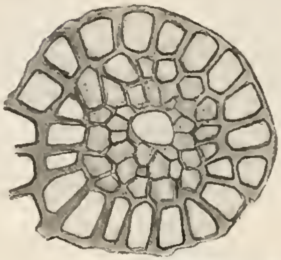
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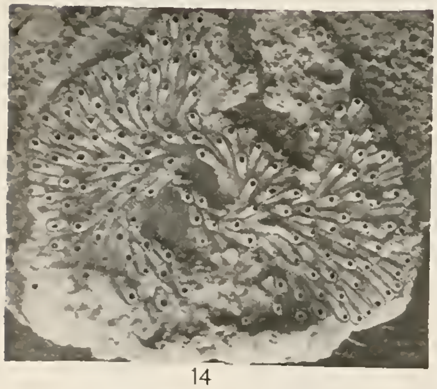
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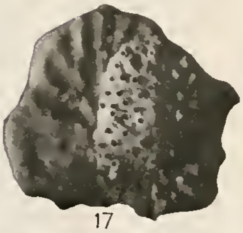
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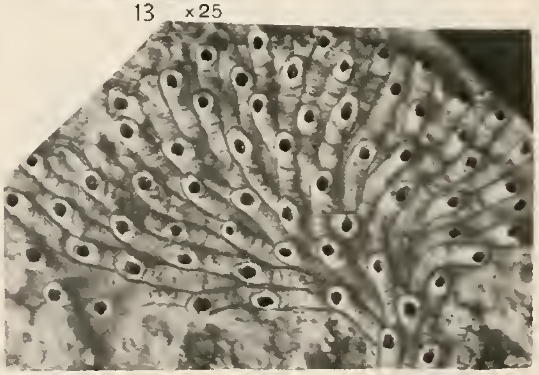
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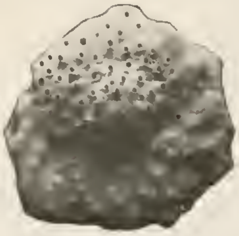
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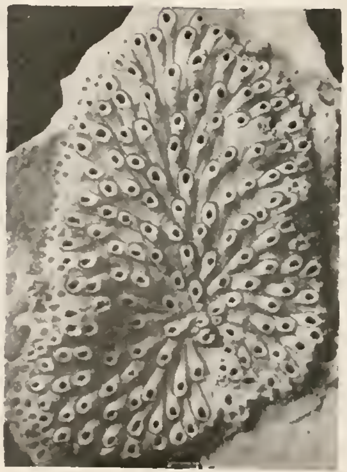
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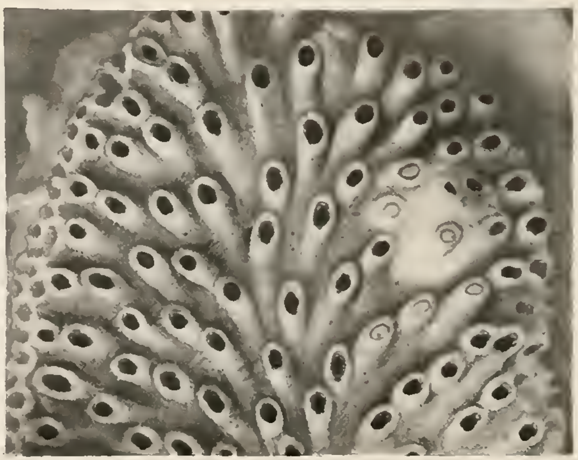
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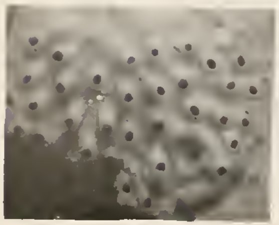
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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 128.

FIGS. 1, 2. *Mecynoecia magnicella*, new species (p. 729).
The cylindrical type-specimen, natural size and × 12, showing the characteristic large tubes and thick peristomes.
Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 65320, U.S.N.M.

FIGS. 3–7. *Mecynoecia parvituba*, new species (p. 733).
3. Fragments of the narrow cylindrical zoarium, natural size.
4, 5. A fragment showing the narrowed base of a branch at the bifurcation, × 12 and × 25.
6, 7. Two fragments with small tubes, × 12.
Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65321, U.S.N.M.

FIGS. 8–13. *Spiropora majuscula*, new species (p. 675).
8. Three fragments, natural size.
9, 10, 11. Views of the same specimens, × 12.
12. Longitudinal thin section, × 25.
13. Transverse thin section, × 25, showing the irregularity of the internal walls.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65322, U.S.N.M.

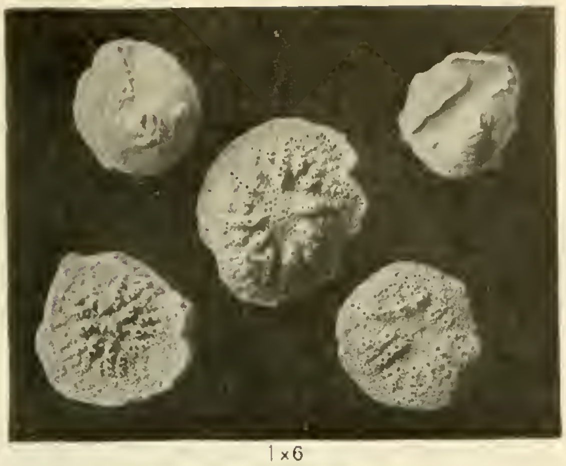
FIGS. 14–18. *Microecia vibrio*, new species (p. 736).
14, 15. Completely developed zoarium with serpentiform tubes. × 12 and × 25.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65486, U.S.N.M.
16, 17, 18. Young-ovicelled zoaria, × 12 and a portion × 25. The tubes are rectilinear.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65323, U.S.N.M.

FIGS. 19, 20. *Microecia flabellata*, new species p. 735).
The flabellate incrusting ovicelled zoarium, × 12 and × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65324, U.S.N.M.

PLATE 129.

FIGS. 1–11. *Lichenopora grignonensis* Milne-Edwards, 1838 (p. 818).

1. Various aspects of the zoarium, × 6.
2. An entire zoarium, × 12.
3. An ovicelled specimen, × 12. The ovicell is more or less covered with cancelli.
   Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
   Cat. No. 65259, U.S.N.M.
4. A composite incrusting zoarium, × 5.
5. Another composite zoarium incrusting an alga, × 5.
6. Surface of the same zoarium, × 12.
7. Section through the same zoarium, × 12.
   Lower Jacksonian (Moodys marl): Jackson, Mississippi.
   Cat. No. 65260, U.S.N.M.
8. Tangential thin section, × 25, obtained by the ablation of the basal lamella.
9. Median section through an ovicelled specimen, × 25.
10. Another median section through an ovicelled specimen, × 25.
11. Portion of an ovicelled example, × 12.
    Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
    Cat. No. 65259, U.S.N.M.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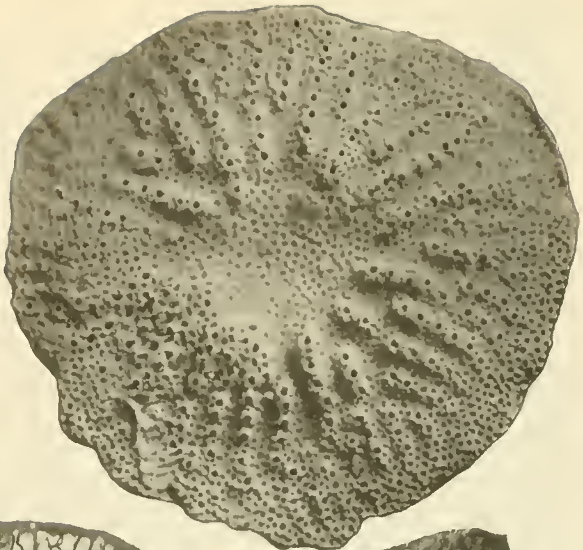
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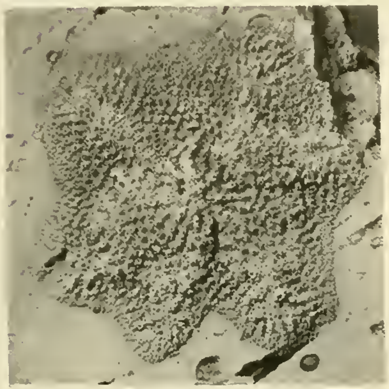
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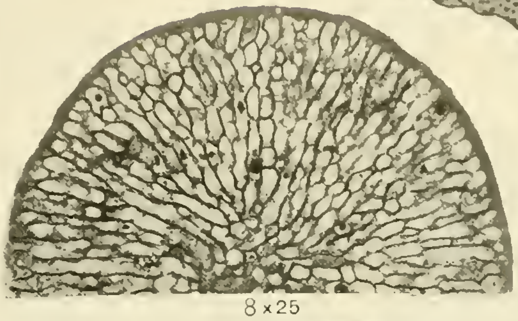
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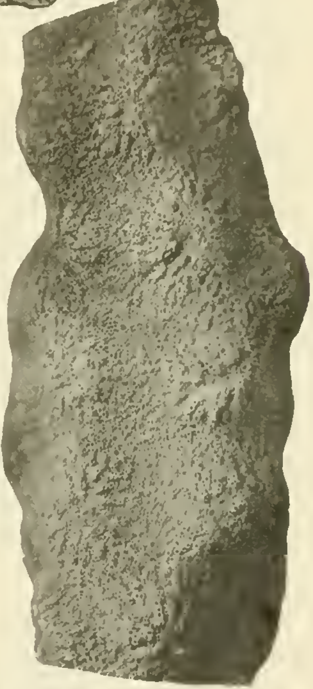
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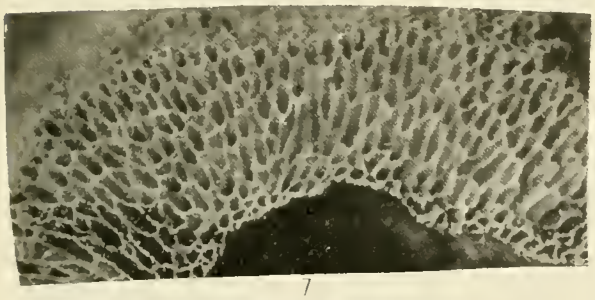
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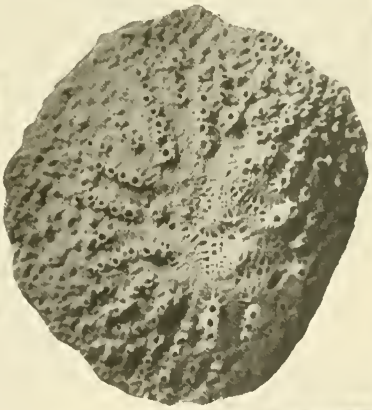
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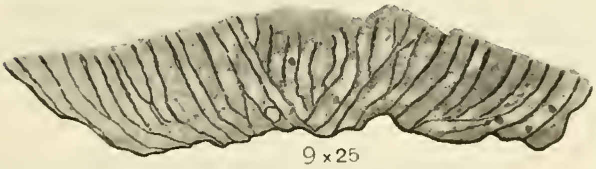
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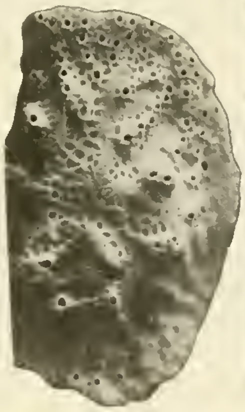
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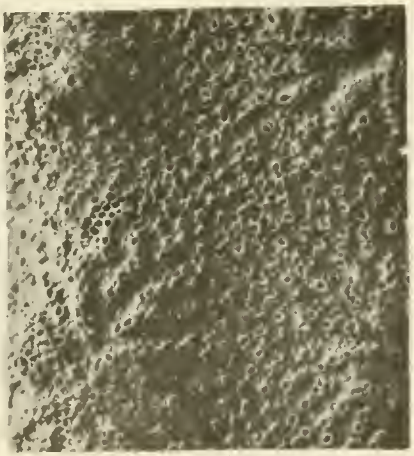
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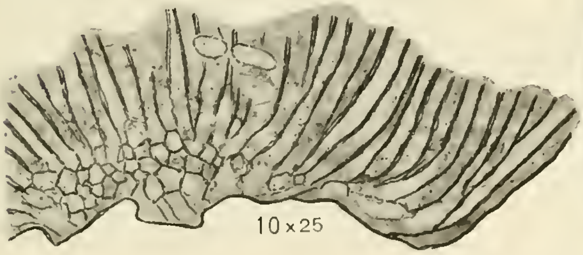
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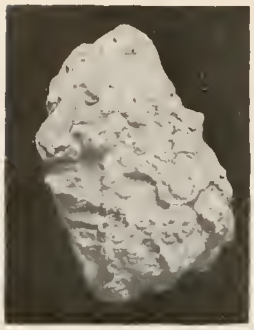
Jacksonian Cyclostomatous Bryozoa.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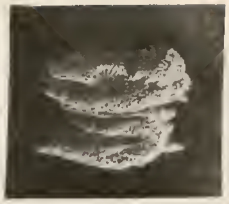
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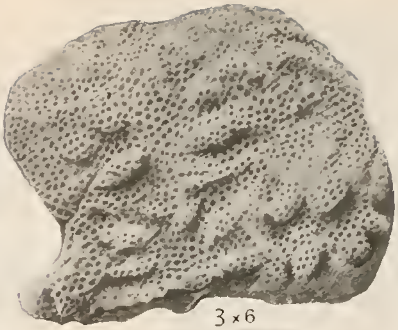
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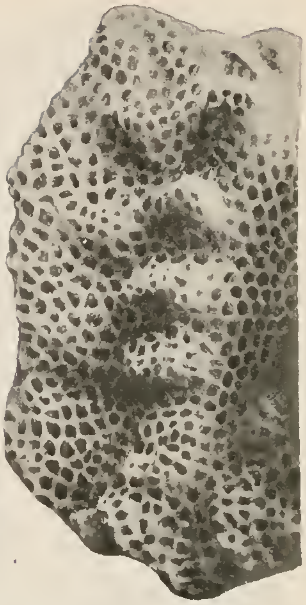
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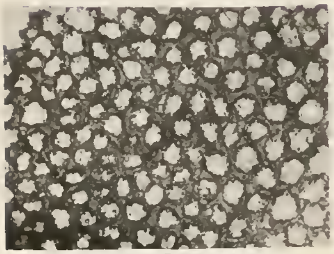
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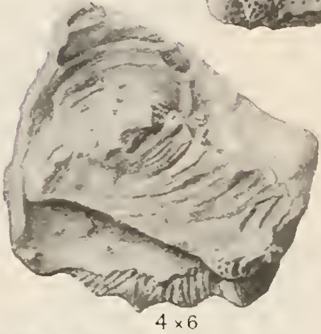
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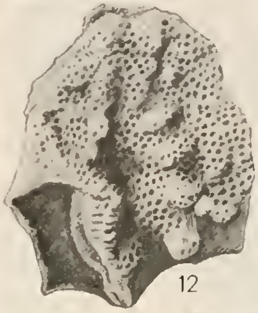
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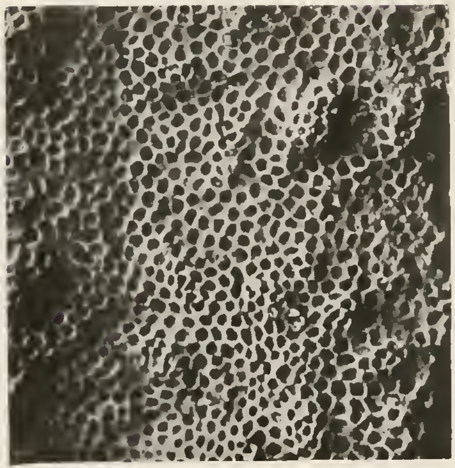
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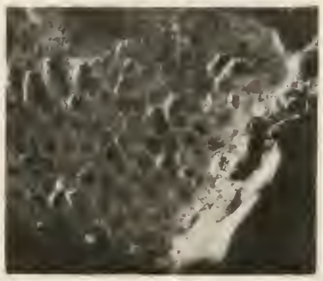
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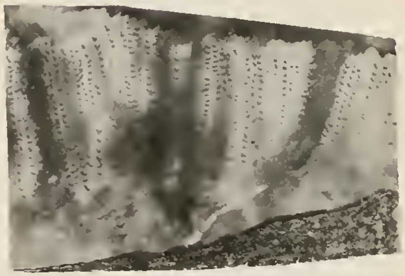
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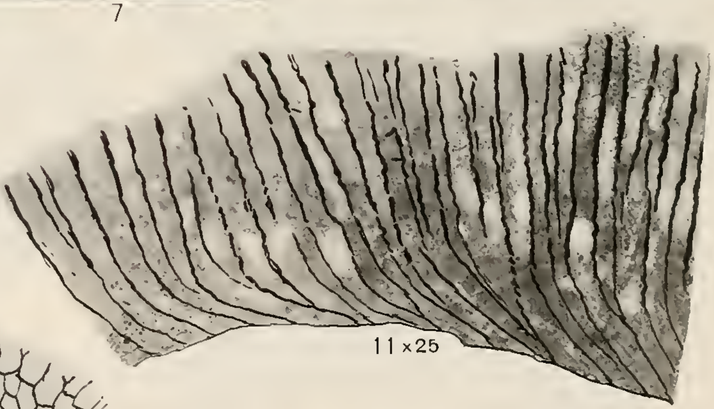
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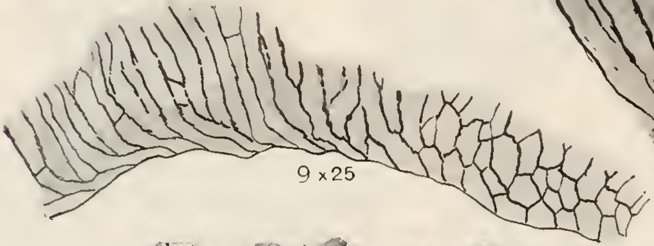
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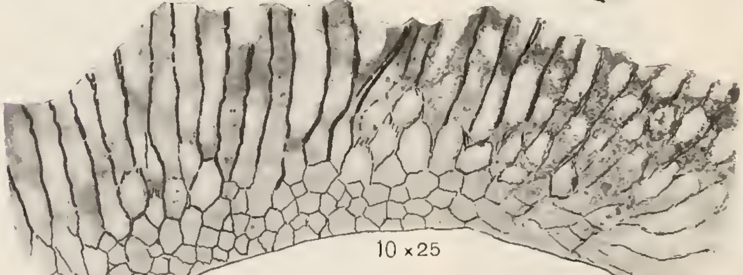
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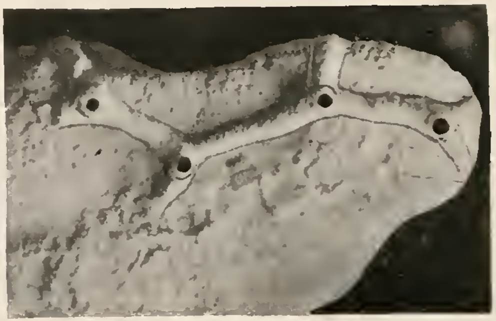
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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 130.

FIGS. 1–11. *Lichenopora boletiformis* Reuss, 1869 (p. 813).

1. A compound zoarium, natural size.
2. Edge view of a compound zoarium, × 3.
3. Dorsal surface of a specimen, × 6.
4. Lower face of a composite zoarium, × 6.
5. Tangential thin section showing the spinules in the cancelli, × 25.
6. Surface of zoarium, × 12. The fascicles are little distinct.
7. Section, × 12, showing the arrangement of the tubes on the basal lamella. The tubes are polygonal and not fusiform.
8. Longitudinal section, × 25, showing the spinules in the cancelli.
9. Longitudinal thin section, × 12, passing through cancelli to the right and through a fascicle to the left. The cancelli are oriented differently from the tubes.
10. Median (longitudinal) thin section, × 25, between the fascicles. The inferior cancelli have a different direction from the superior ones.
11. Median thin section, × 25, through the fascicles.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65453, U.S.N.M.

FIGS. 12, 13. *Lichenopora verrucosa* Phillipi, 1843 (p. 818). (See also Plate 131, figs. 10–13.)

12, 13. Anterior face of a zoarium, × 6, and × 12, with salient fascicles and a central elliptical area.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65454, U.S.N.M.

FIG. 14. *Stomatopora cornu*, new species (p. 657).

Zoarium, × 25, showing the club-shaped tubes.

Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65455, U.S.N.M.

PLATE 131.

FIGS. 1–7. *Idmidronea maxillaris* Lonsdale, 1845 (p. 785).
1. A group of the linear, more or less distorted branches, natural size.
2. Frontal of a branch, × 12, showing two tubes to each fascicle.
3. A distorted branch, × 12, exhibiting base, frontal, and profile.
4. Dorsal, × 25, showing the striae of the firmatopores.
5. Tangential section of the dorsal, × 25, showing the spindles of the firmatopores.
6. Normal transverse section, × 25.
7. Longitudinal section, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65360, U.S.N.M.

FIGS. 8, 9. *Stomatopora parvipora*, new species (p. 655).
8. Zoarium, × 12. The irregularity of the zoarium appears to be due to the uneven substratum.

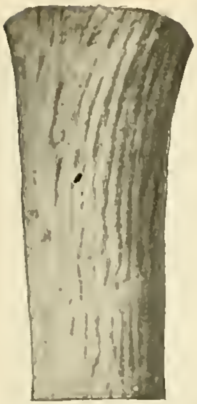
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65361, U.S.N.M.

9. Zoarium, × 25, preserving the orbicular protoecium.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65362, U.S.N.M.

FIGS. 10–13. *Lichenopora verrucosa* Phillipi, 1843 (p. 818). (See also Plate 130, figs. 12, 13.)
10. Top and side views of three examples, × 3.
11. A simple zoarium with a large central area, × 12.
12. Zoarium with separated fascicles, × 12.
13. Portion of another zoarium, × 12, with fascicles closely arranged.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65363, U.S.N.M.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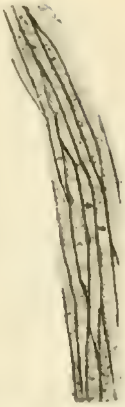
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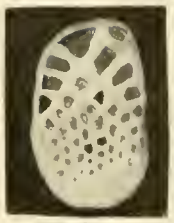
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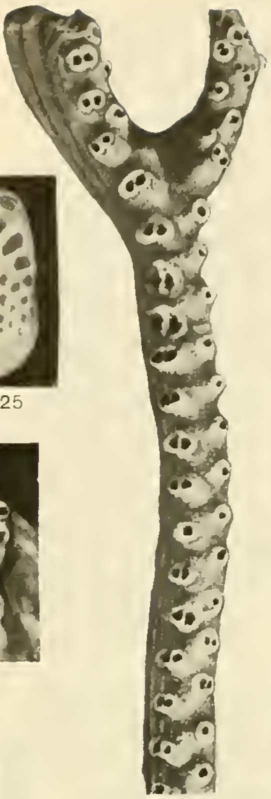
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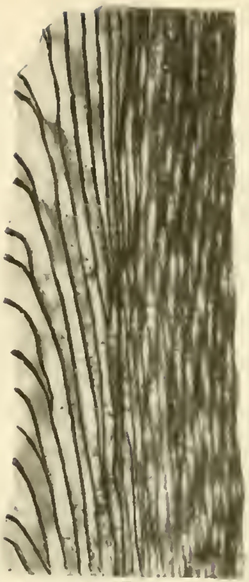
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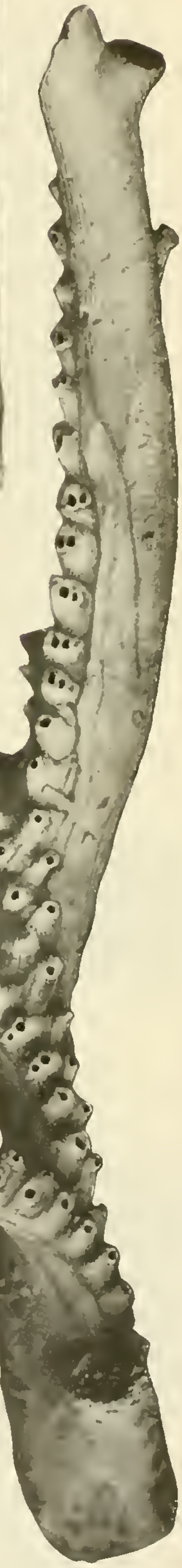
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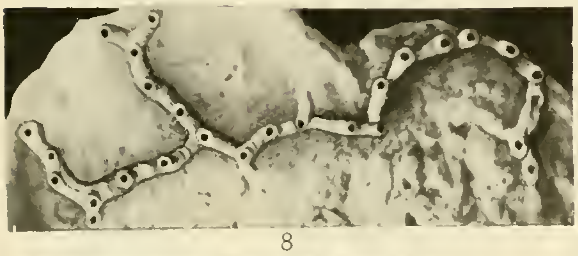
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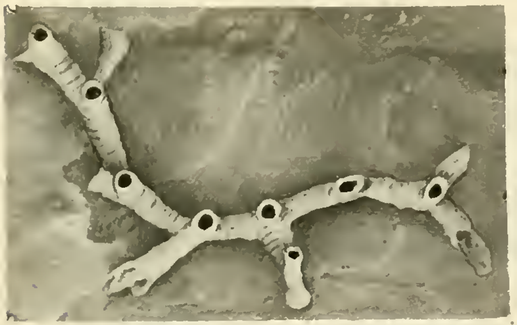
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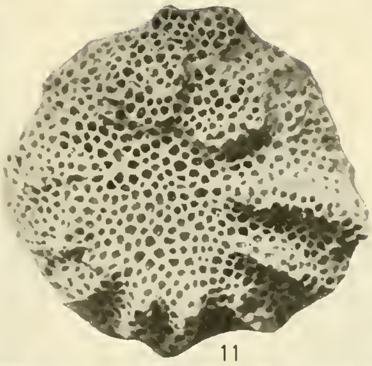
10 × 3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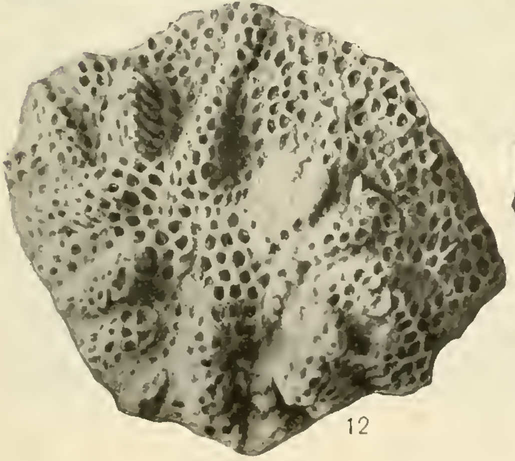
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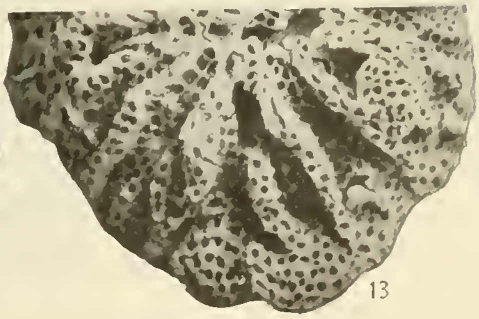
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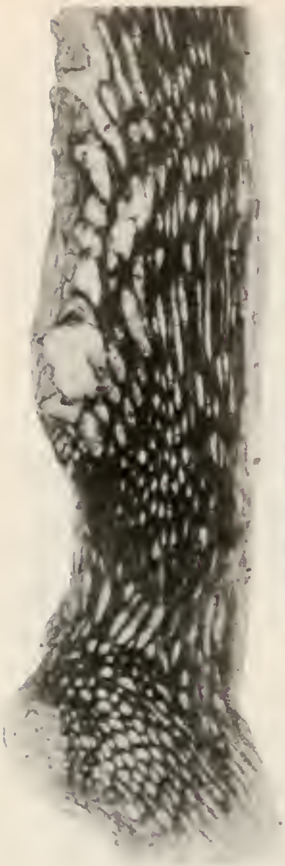
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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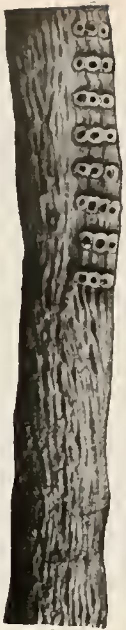
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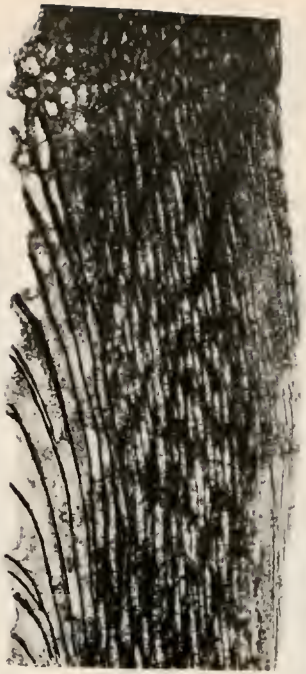
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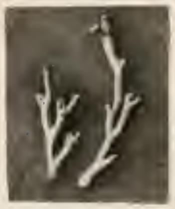
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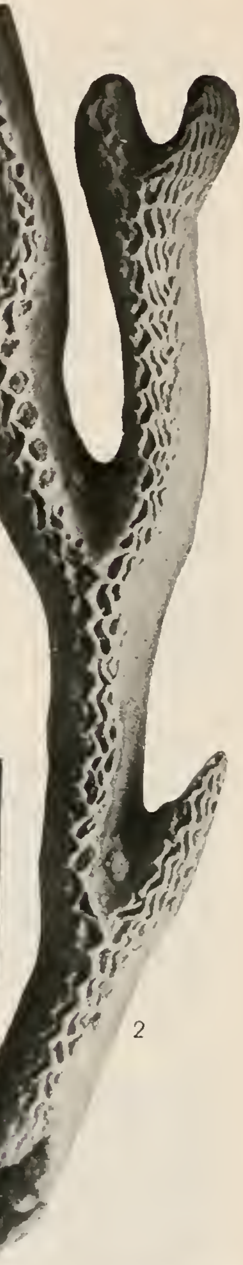
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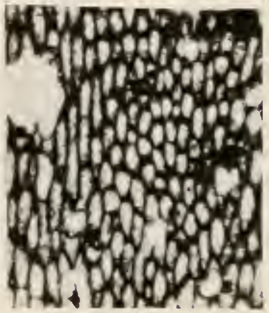
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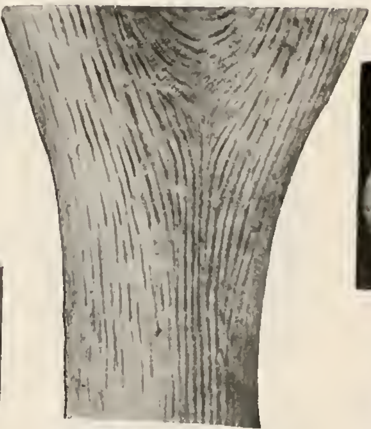
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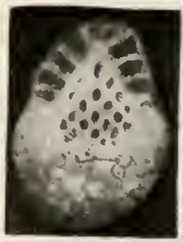
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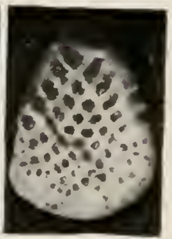
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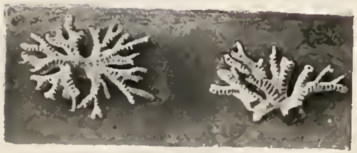
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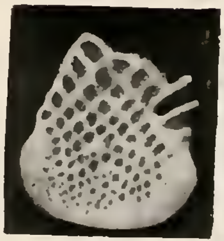
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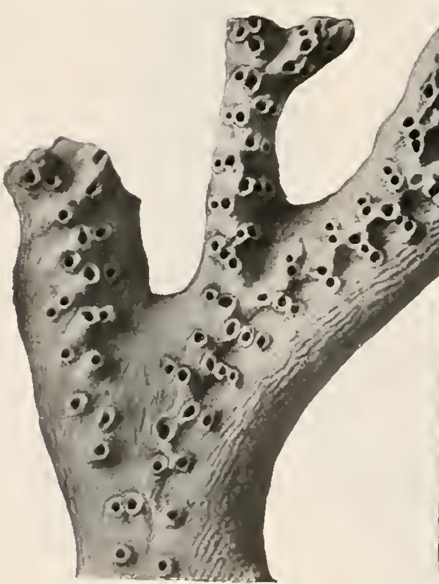
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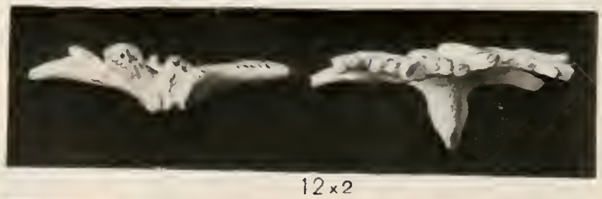
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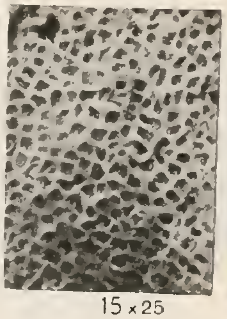
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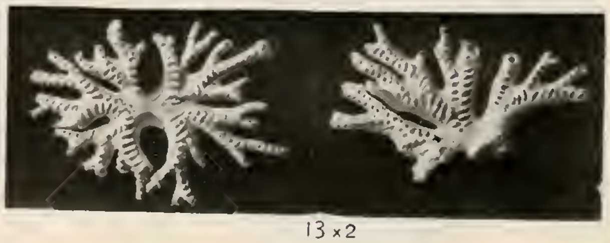
13 × 2

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 132.

FIGS. 1–10. *Idmidronea culter*, new species (p. 785).
1. Two zoarial fragments, natural size.
2. Portion of a fragment shown in figure 1, × 12.
3. Lateral face of a branch, × 12.
4. Dorsal showing the striations of the firmatopores, × 25.
5. Longitudinal section showing branching of a stem, × 25.
6. Longitudinal section through the extremity of a branch, × 25.
7, 8, 9. Transverse sections, × 25.
10. Tangential section of the dorsal showing the spindles formed by the firmatopores, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65358, U.S.N.M.

FIGS. 11–15. *Idmidronea rosacea*, new species (p. 784).
11. Two zoaria, natural size.
12. Profile of the same specimens, × 2, showing development of branches on a stem.
13. Top view of the same, × 2.
14. Celluliferous surface, × 12, exhibiting fascicles with only 2 or 3 zooecia.
15. Abraded dorsal showing the firmatopores, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65359, U.S.N.M.

PLATE 133.

FIGS. 1–13. *Erkosonea semota*, new species (p. 763).
1. Fragments of the idmoneiform zoarium, natural size.
2. Celluliferous side of a well preserved example, × 12.
3. Lateral face, × 12. The tubes are distinct and separated by a distinct thread.
4, 5. Dorsal side with the dactylethrae, × 12.
6. Dorsal of a worn branch, × 12. The calcareous covering lamella of the dactylethrae is broken.
7. Frontal of a branch, × 25, showing dactylethrae at the bifurcation.
8. Branch of *Erkosonea admota*, new species, from the Middle Jacksonian at Wilmington, North Carolina, showing ovicell, × 12. Introduced here by error.
9. Longitudinal section, × 25. The walls of the dactylethrae appear to be separated by a white line indicating an incomplete intercellular tissue.
10. Longitudinal section, × 25, passing through a bifurcation.
11. Longitudinal section, × 25. Dactylethrae of ramification are visible.
12, 13. Two transverse sections, × 25.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65364, U.S.N.M.

FIGS. 14–17. *Lichenopora grignonensis* var. *multilamellosa*, new variety (p. 820).
14. The type-specimen, natural size, a fragment of a lamellar expansion.
15. Basal lamella of the type, × 12.
16. Surface of the same, × 12. The fascicles are very attenuated. The cancelli are of the same size as in the species.
17. Edge view of a broken zoarium consisting of but one thick lamella, × 12.
Middle Jacksonian: Rich Hill, 5¼ miles southeast of Knoxville, Crawford County, Georgia.
Cat. No. 65365, U.S.N.M.

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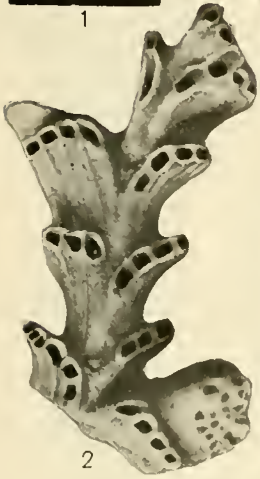
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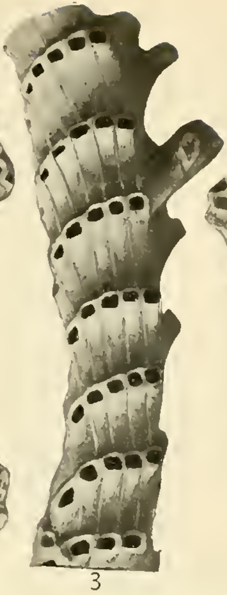
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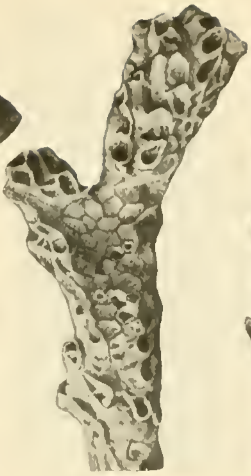
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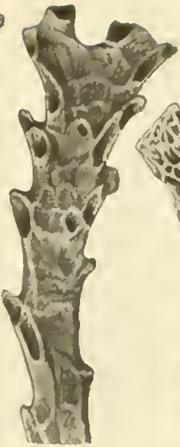
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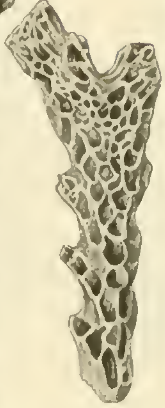
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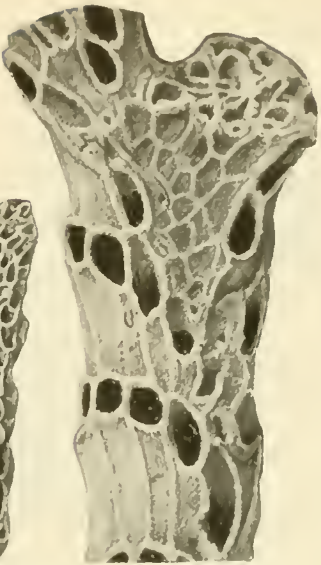
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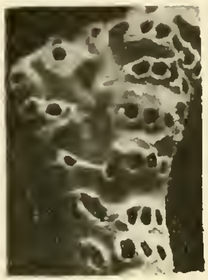
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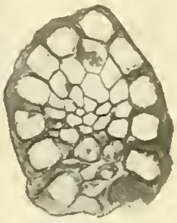
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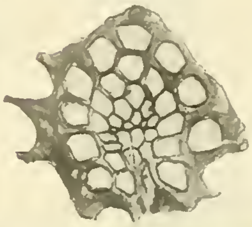
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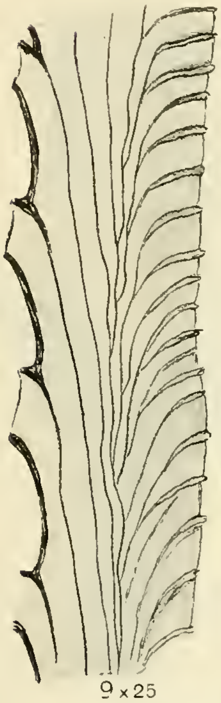
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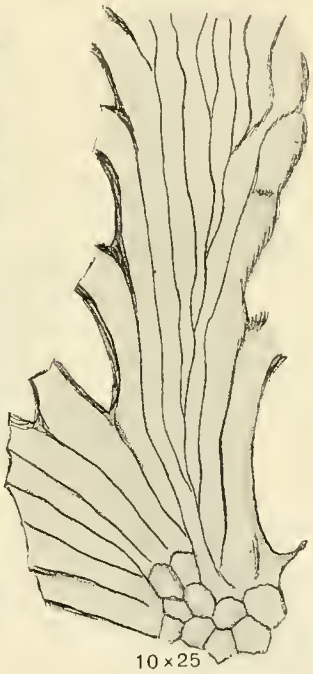
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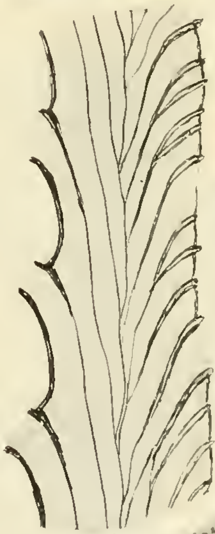
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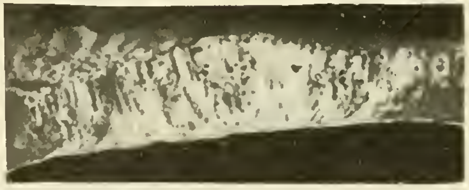
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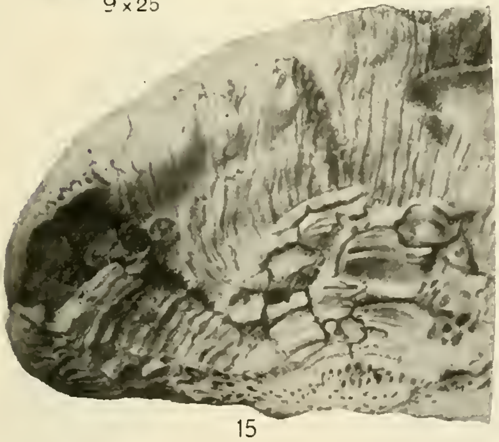
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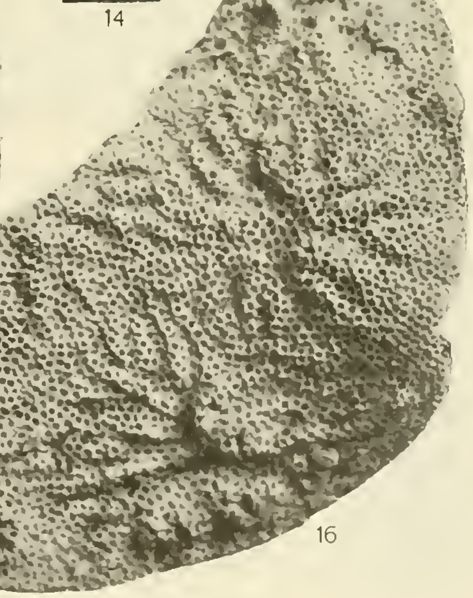
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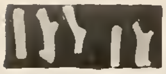
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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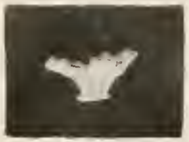
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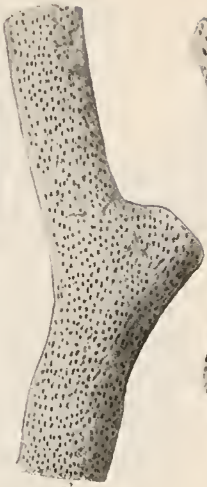
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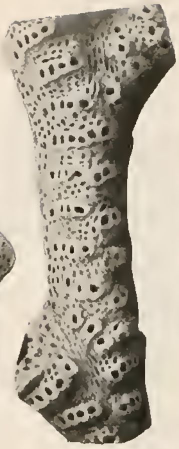
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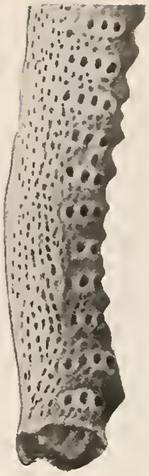
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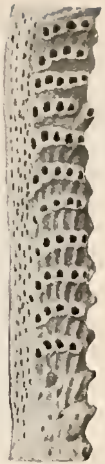
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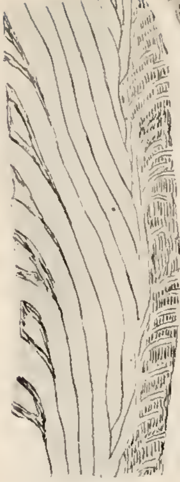
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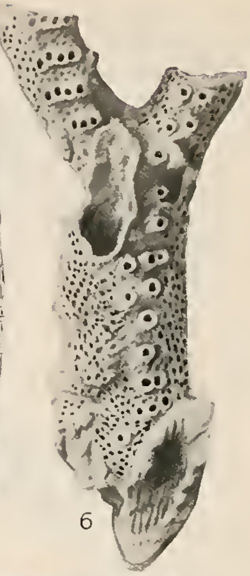
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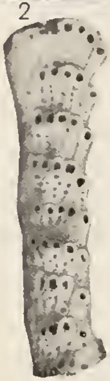
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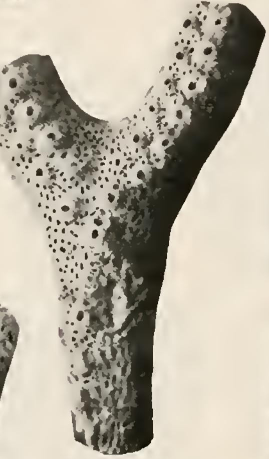
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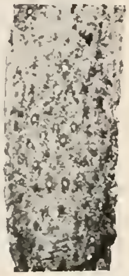
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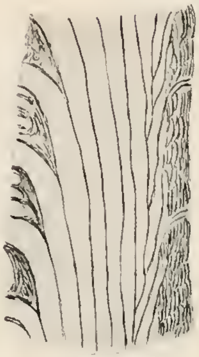
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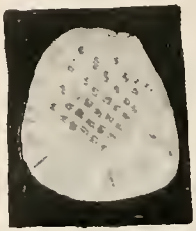
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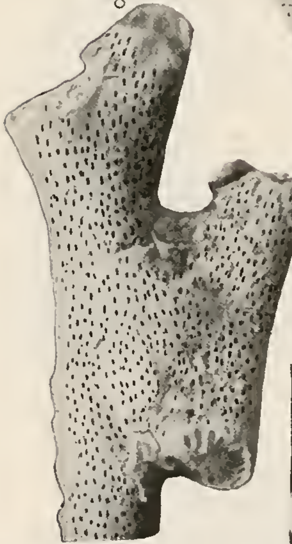
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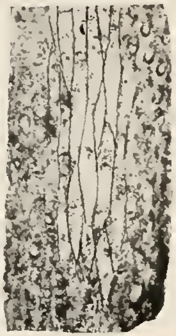
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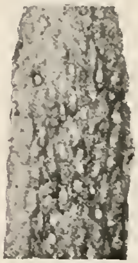
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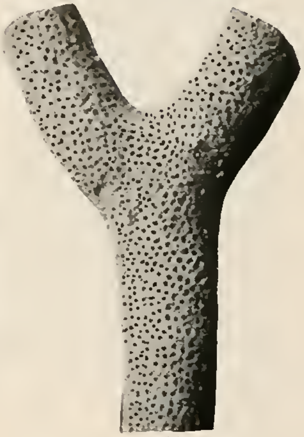
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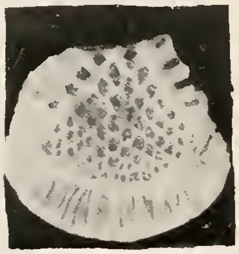
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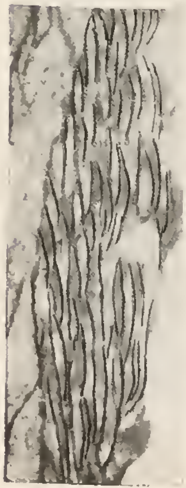
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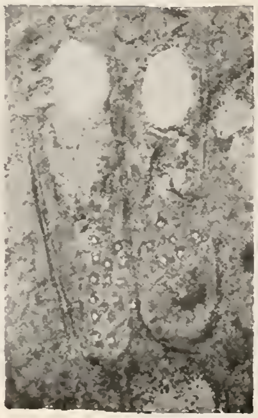
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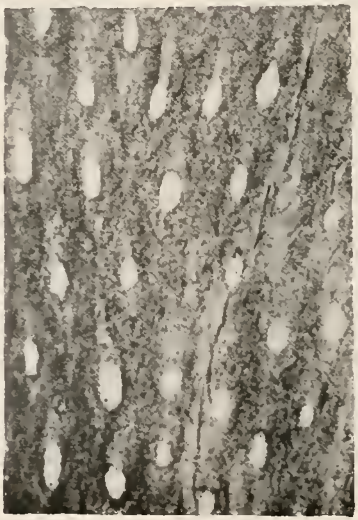
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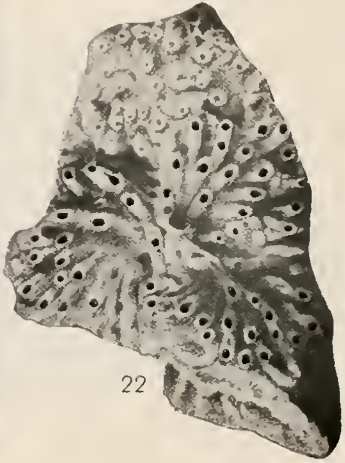
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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 134.

FIGS. 1–21. *Polyascosoecia jacksonica*, new species (p. 837).

1. Zoarial fragments, natural size.
2. Base of a zoarium, × 2.
3. Posterior face, × 12, showing the small vacuoles.
4. Anterior face, × 12, illustrating alternate arrangement of fascicles.
5. Lateral face of a young branch, × 12. The frontal of the tubes is concave and does not yet bear vacuoles.
6. Branch with ovicell, × 12.

Middle Jacksonian: Rich Hill, 5¼ miles southeast of Knoxville, Crawford County, Georgia.

Cat. No. 65333, U.S.N.M.

7. Lateral face, × 12. The vacuoles cover the frontal of the tubes.
8. Lateral face of a young branch, × 12. The frontal of the tubes is covered with transverse vacuoles.
9. Dorsal of a reticulate branch, × 12.
10. Anterior face of a basal branch, × 12.
11. Posterior face, × 12.
12. Tangential section of the dorsal, × 25, at the level of the basal lamella.
13. Tangential section, × 25, just above the basal lamella, showing the usual lozenge shaped areas.
14. Tangential section, × 25, through the orifice of the vacuoles.

15, 16. Two longitudinal sections, × 25.

17. Transverse section through the fascicles, × 25.
18. Transverse section between the fascicles, × 25.
19. Longitudinal thin section, × 50, exhibiting the pseudolamellar structure.
20. Tangential section of a tube, × 100. The structure is identical with that of all other Cyclostomata.
21. Tangential section, × 100, taken at the level of the orifice of the vacuoles. The sulci are indicated by the clear spaces.

Middle Jacksonian: Three and one-half miles south of Perry, Georgia.

Cat. No. 65334, U.S.N.M.

FIG. 22. *Tubulipora interrupta*, new species (p. 758).

The incrusting zoarium, × 12.

Middle Jacksonian: Rich Hill, 5¼ miles southeast of Knoxville, Crawford County, Georgia.

Cat. No. 65335, U.S.N.M.

PLATE 135.

FIGS. 1–15. *Centronea micropora* Reuss, 1869 (p. 761).
1. Various views of the zoarium, natural size.
2, 3. An aggregated zoarium, natural size and × 3.
4. Basal side of an aggregated zoarium, × 3. The basal lamella is concentrically striated.
5. Celluliferous face of a discoidal zoarium, × 6. The fascicles are irregularly arranged.
6. Lower face of another simple zoarium, × 6.
7. Side view of two superposed subcolonies, × 6.
8. Top and basal views of two young specimens, × 12, with marginal subcolonies.
9. Axis of union of basal lamellae of two adjacent subcolonies, × 12. The pores are the orifices of the incomplete tubes.
10. Ovicelled specimen, × 12.
11. Zoarium with large marginal lamella, × 12, supporting very young incompletely calcified zooecia.
12. Zoarium with pluriserial fascicles, × 12.
13. Zoarium with small marginal subcolonies, × 12.
14. An ovicelled zoarium, × 12.
15. Median thin section, × 12, showing closed zooecia (*z. c.*) in the center and the beginning of a subcolony (*s. c.*) to the left

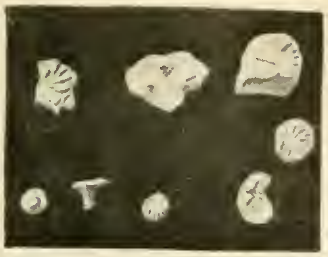
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65343, U.S.N.M.

FIGS. 16–20. *Idmonea arcuata*, new species (p. 776).
16. Specimens of the short free zoarium, natural size.
17, 18. Celluliferous side of these specimens, × 12.
19, 20. Dorsal of the same examples, × 12, showing convex striations.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65344, U.S.N.M.

FIGS. 21–26. *Idmonea sloani*, new species (p. 776).
21. Fragments of the free linear zoarium, natural size.
22. Lateral view of an example, × 12.
23, 24. Frontal side of another specimen, × 12, and a portion, × 25.
25. Dorsal of a specimen, × 12, with a flat basal lamella.
26. Another example, × 12, with a concave lamella bordered by a thick margin.

Middle Jacksonian: Near Lenuds Ferry, South Carolina, and Wilmington, North Carolina.
Cat. Nos. 65480, 65345, U.S.N.M.



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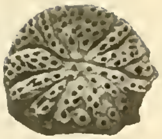

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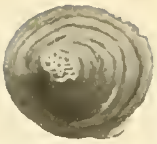

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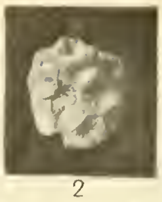

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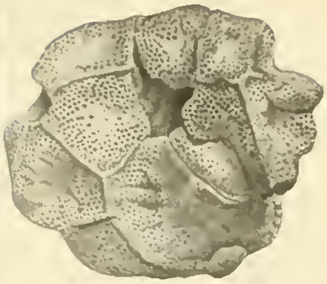

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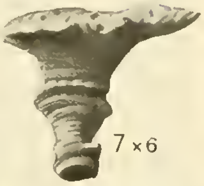

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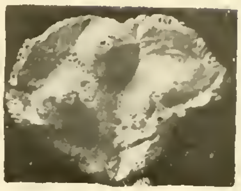

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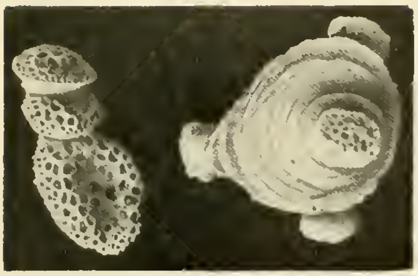

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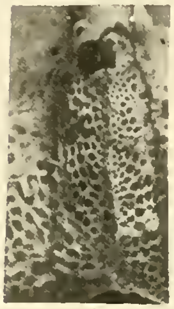

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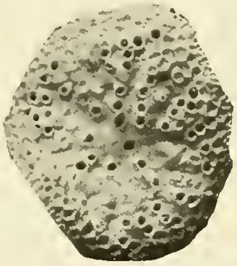

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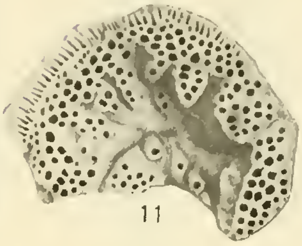

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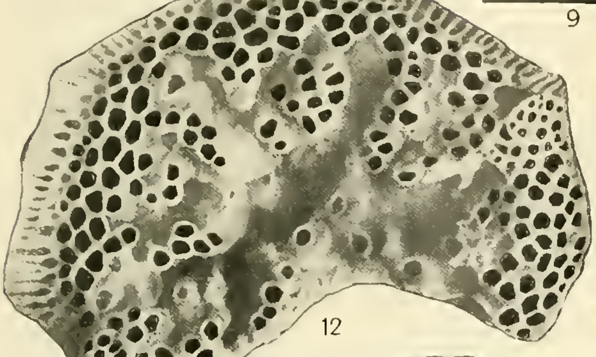

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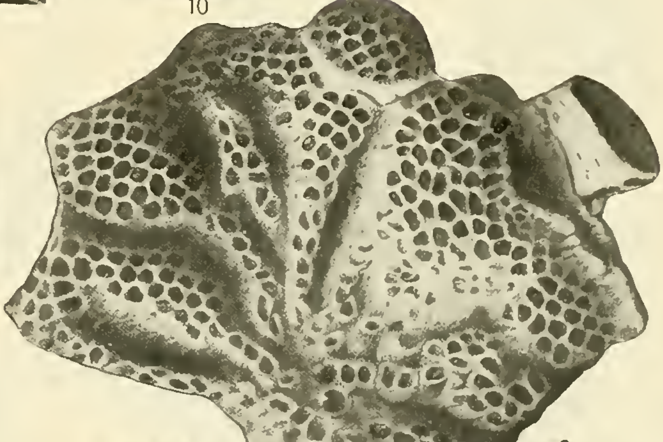

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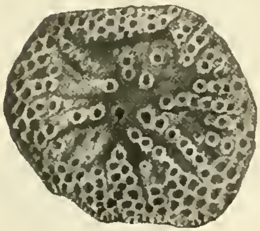

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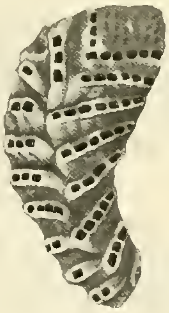

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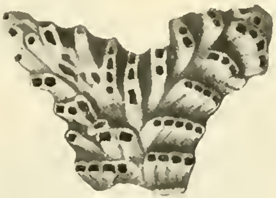

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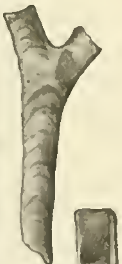

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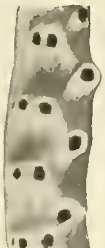

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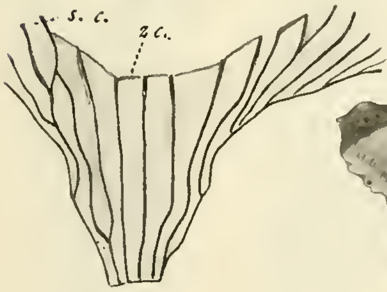

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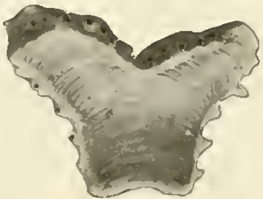

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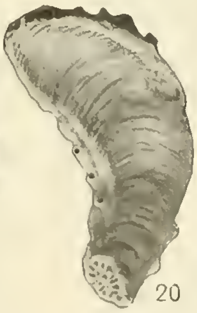

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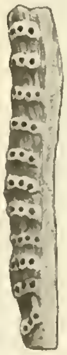

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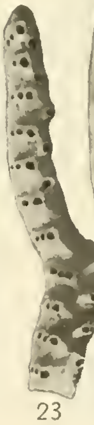

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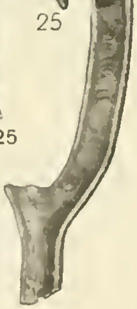

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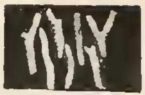
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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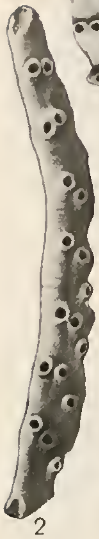
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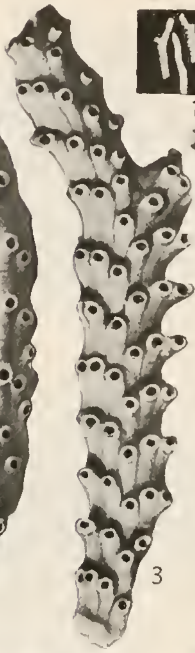
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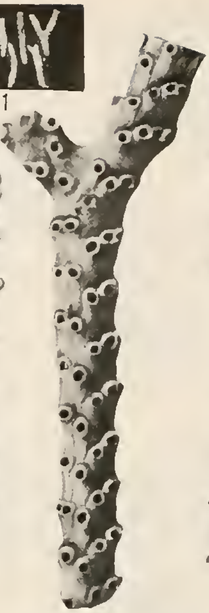
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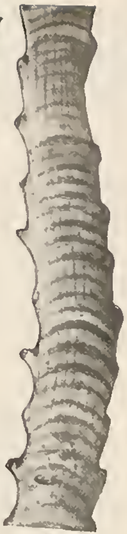
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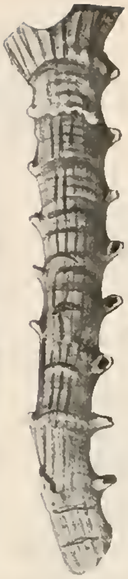
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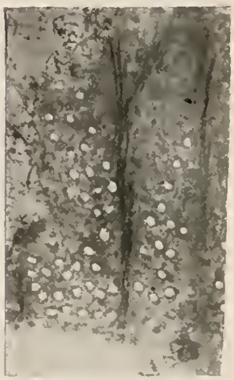
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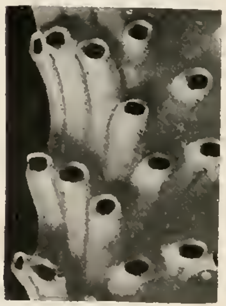
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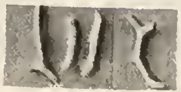
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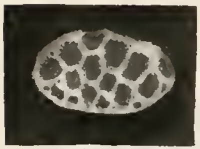
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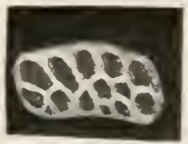
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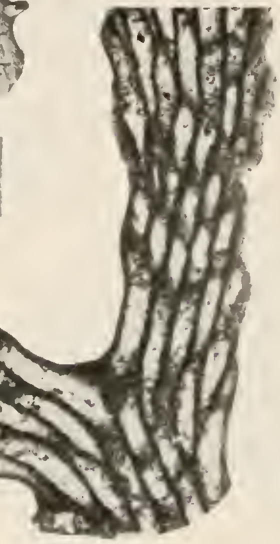
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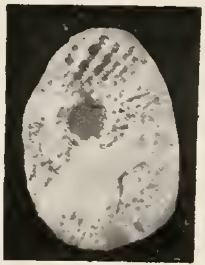
19 × 25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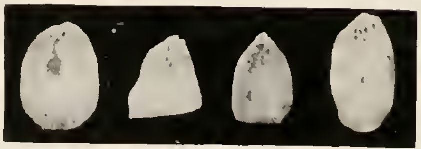
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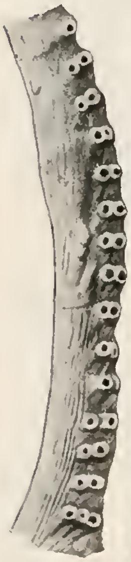
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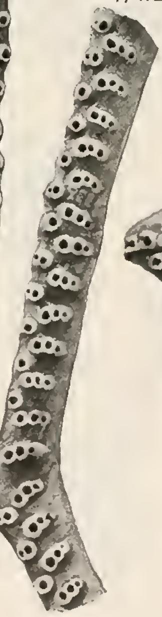
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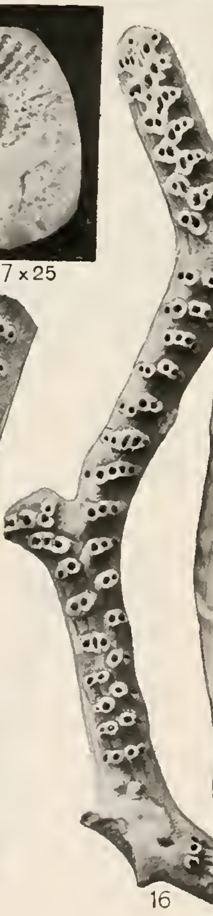
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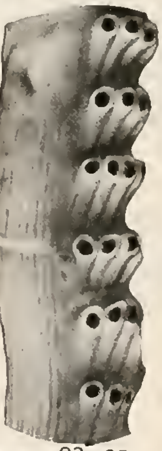
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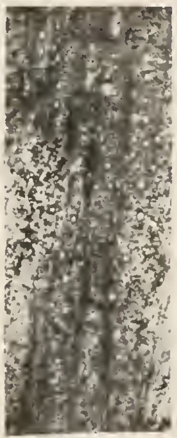
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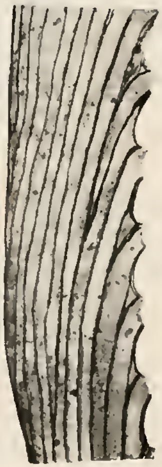
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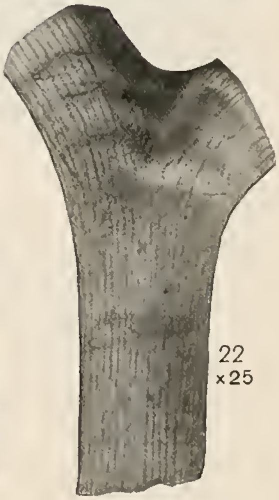

22 × 25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

Plate 136.

Figs. 1–12. *Idmonea milneana* D'Orbigny, 1839 (p. 773).

1. Fragments of the bifurcated compressed zoarium, natural size.
2. Lateral view of a branch, × 12.
3. A wide zoarium, × 12.
4. A narrow zoarium, × 12.
5. Dorsal side, × 12, showing convex striations much accentuated.
6. View of dorsal, × 12, showing longitudinal and transverse striations.
7. Surface of specimen (fig. 3), × 25.
8. Tangential section of the frontal, × 100.
9. Tangential section of the dorsal, × 100.

10, 11. Transverse sections, × 25.

12. Tangential section of the dorsal, × 25, after removal of the basal lamella.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65351, U.S.N.M.

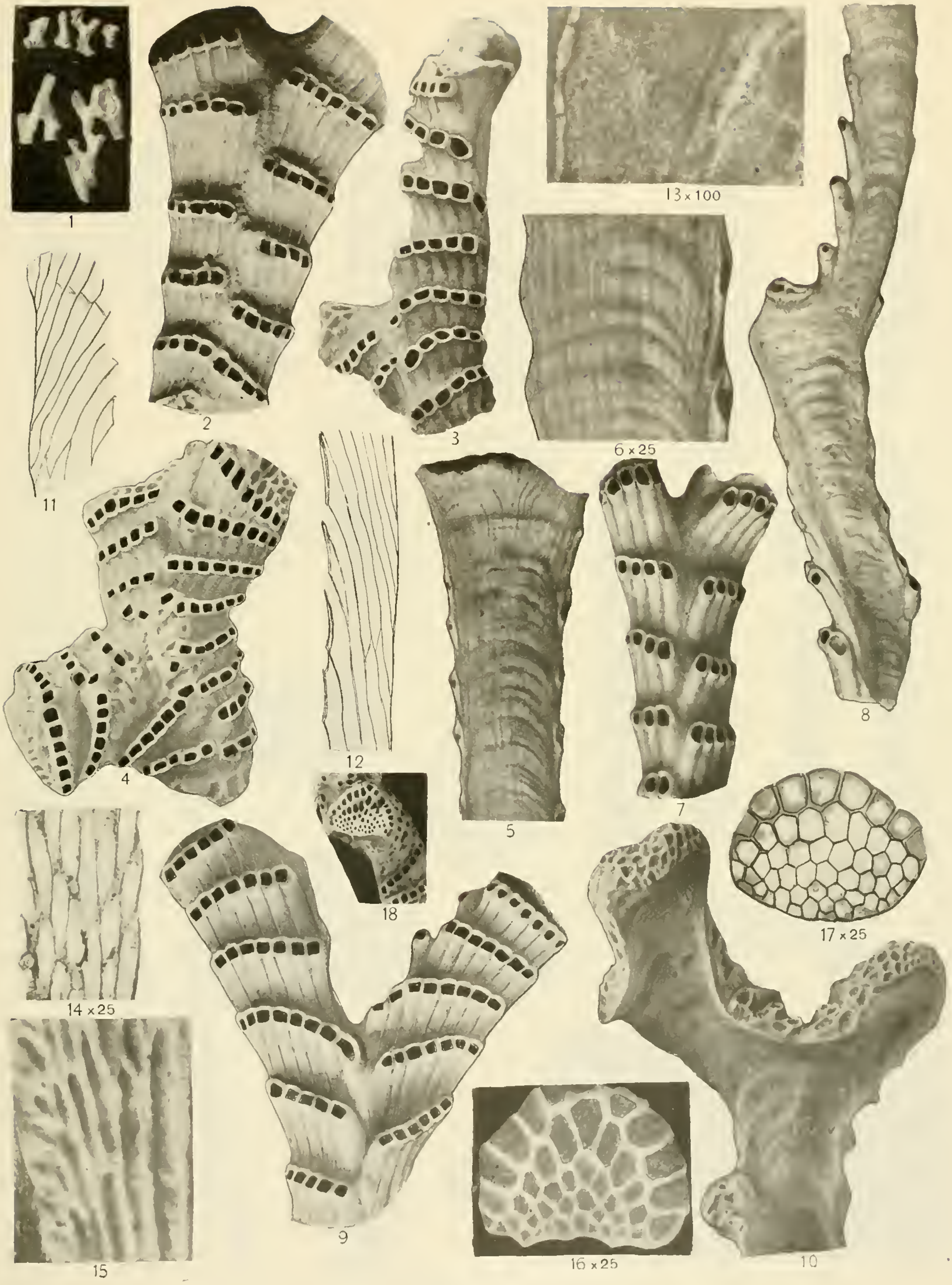
Figs. 13–23. *Idmonea magnireversa*, new species (p. 776).

13. Zoarial fragments, natural size.
14. Lateral view of a branch, × 12.
15. Frontal view, × 12.
16. Terminal branch, × 12, preserving the zone of growth.
17. Usual transverse section, × 25.
18. Transverse sections at different heights, × 12.
19. Tangential section of the dorsal after removal of the basal lamella, × 25.
20. Tangential section of the basal lamella, × 100.
21. Longitudinal thin section, × 25.
22. Dorsal side of branch, × 25, showing tubes.
23. Lateral view of branch, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65352, U.S.N.M.

PLATE 137.

FIGS. 1–13. *Idmonea petri* D'Archiac, 1846 (p. 781).
1. Zoarial fragments, natural size.
2. Branch with transverse fascicles, × 12.
Middle Jacksonian: Three and one-quarter miles south of Perry, Georgia.
Cat. No. 65346, U.S.N.M.
3. Lateral face of a branch, × 12, with 4 or 5 tubes to the fascicles.
4. Branch of a reticulate zoarium, × 12, with fascicles joined.
Jacksonian (Zeuglodon bed): South side of Suck Creek, Clarke County, Mississippi.
Cat. No. 65347, U.S.N.M.
5, 6. Branch with convex basal lamella, × 12 and × 25.
7. Specimen showing 4 or 5 tubes to the fascicle, × 12.
8. Basal lamella of a branch, × 12, concave below and convex above.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65348, U.S.N.M.
9. An example with 7 or 8 tubes to the fascicle, × 12.
10. Zoarium with concave basal lamella. The thick zone of growth is visible.
11. Longitudinal section, × 12.
Jacksonian (Zeuglodon bed): Shubuta, Mississippi.
Cat. No. 65349, U.S.N.M.
12. Longitudinal thin section, × 12.
13. Tangential section of the dorsal, × 100.
14. Tangential section of the dorsal, × 25, after the removal of the basal lamella.
15. View of the interior obtained by the ablation of the basal lamella, × 12.
16. Transverse section through the fascicles, × 25.
17. Transverse section between the fascicles, × 25.
18. Cross section of a branch, × 12.
Middle Jacksonian: Rich Hill, 5½ miles southeast of Knoxville, Georgia.
Cat. No. 65350, U.S.N.M.


1
2
3
13 × 100
6 × 25
8
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14 × 25
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16 × 25
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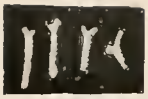
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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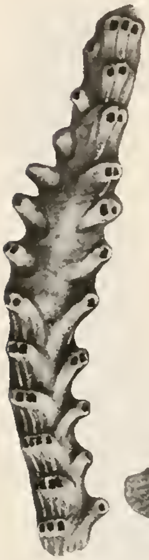
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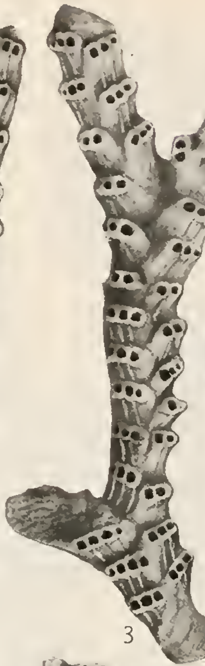
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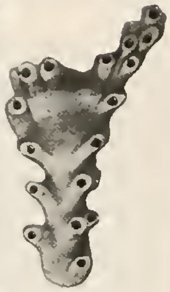
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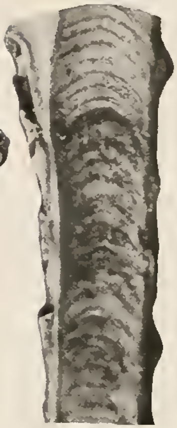
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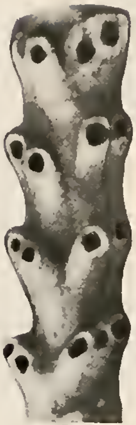
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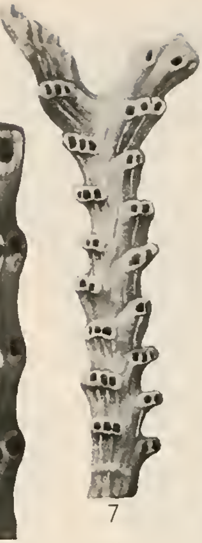
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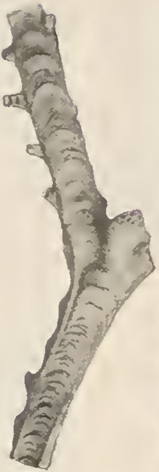
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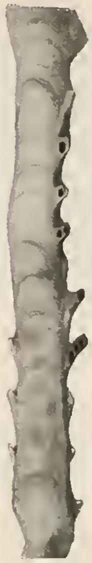
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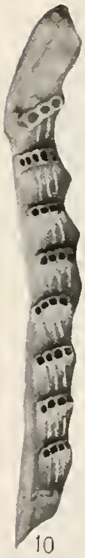
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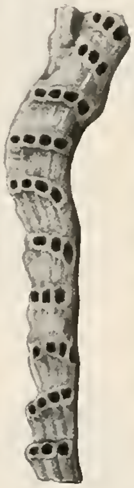
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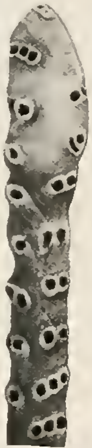
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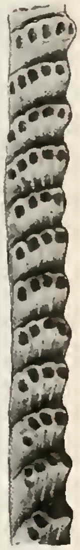
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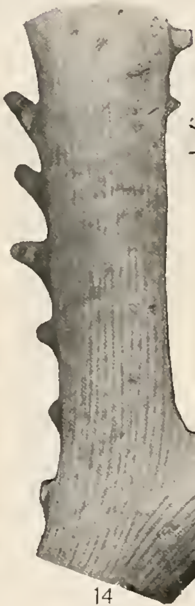
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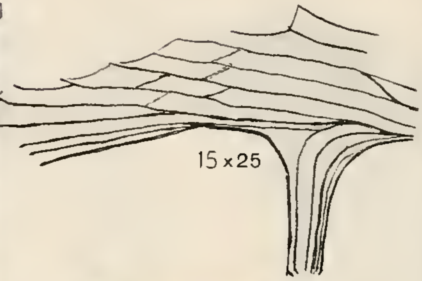
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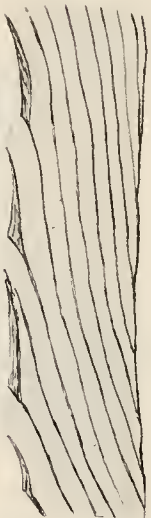
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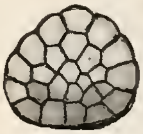
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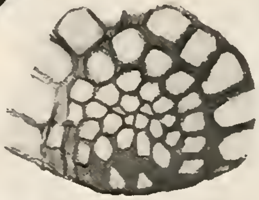
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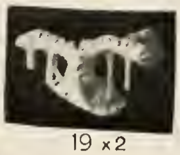
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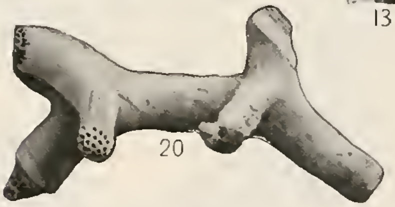
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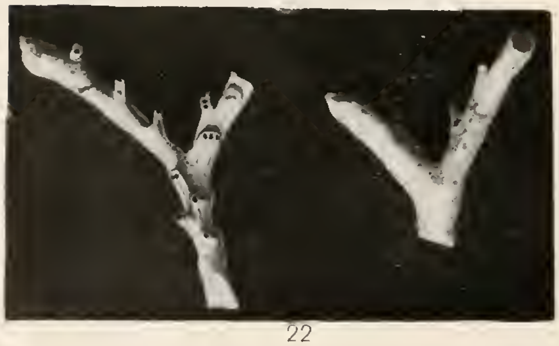
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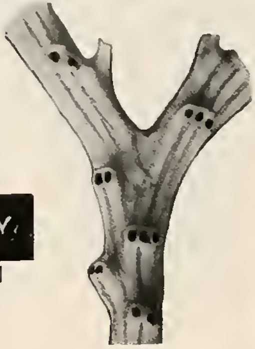
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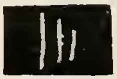
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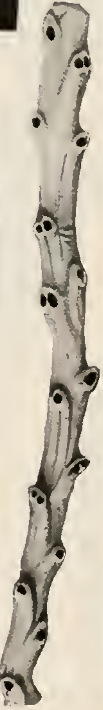
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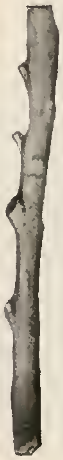
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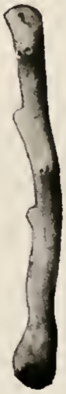

27

Jacksonian Cyclostomatous Bryozoa.

Plate 138.

Figs. 1–20. *Idmonea grallator*, new species (p. 777).
1. Fragments of the small, linear, bifurcated zoarium, natural size.
2. An ovicelled zoarium, × 12.
3. A branch with salient and divergent fascicles, × 12.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65414, U.S.N.M.
4. An ovicelled branch, × 12.
Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65415, U.S.N.M.
5, 6. Dorsal and frontal of a branch, × 25.
Vicksburgian (Marianna limestone): Near Claiborne, Monroe County, Alabama.
Cat. No. 65416, U.S.N.M.
7. Branching fragment, × 12, with broken fascicles.
8, 9. Dorsal side of two branches, × 12, with convex striations. Branch convex above.
10. Lateral face of a branch with salient fascicles, × 12.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65414, U.S.N.M.
11, 12. Lateral and frontal views, ×12, of an ovicelled branch. The oeciostome is preserved.
Vicksburgian (Marianna limestone): Near Claiborne, Monroe County, Alabama.
Cat. No. 65416, U.S.N.M.
13. Lateral face, × 12, with fascicles broken.
Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65415, U.S.N.M.
14. An inferior branch, × 25, showing convex dorsal striated longitudinally by the tubes.
15. Thin section through a radicell, × 25.
16. Longitudinal thin section, × 25.
17, 18. Transverse sections, × 25.
19. Zoarial base, × 2, provided with radicells for support.
20. Zoarial fragment, × 6, showing radicells of consolidation.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65414, U.S.N.M.

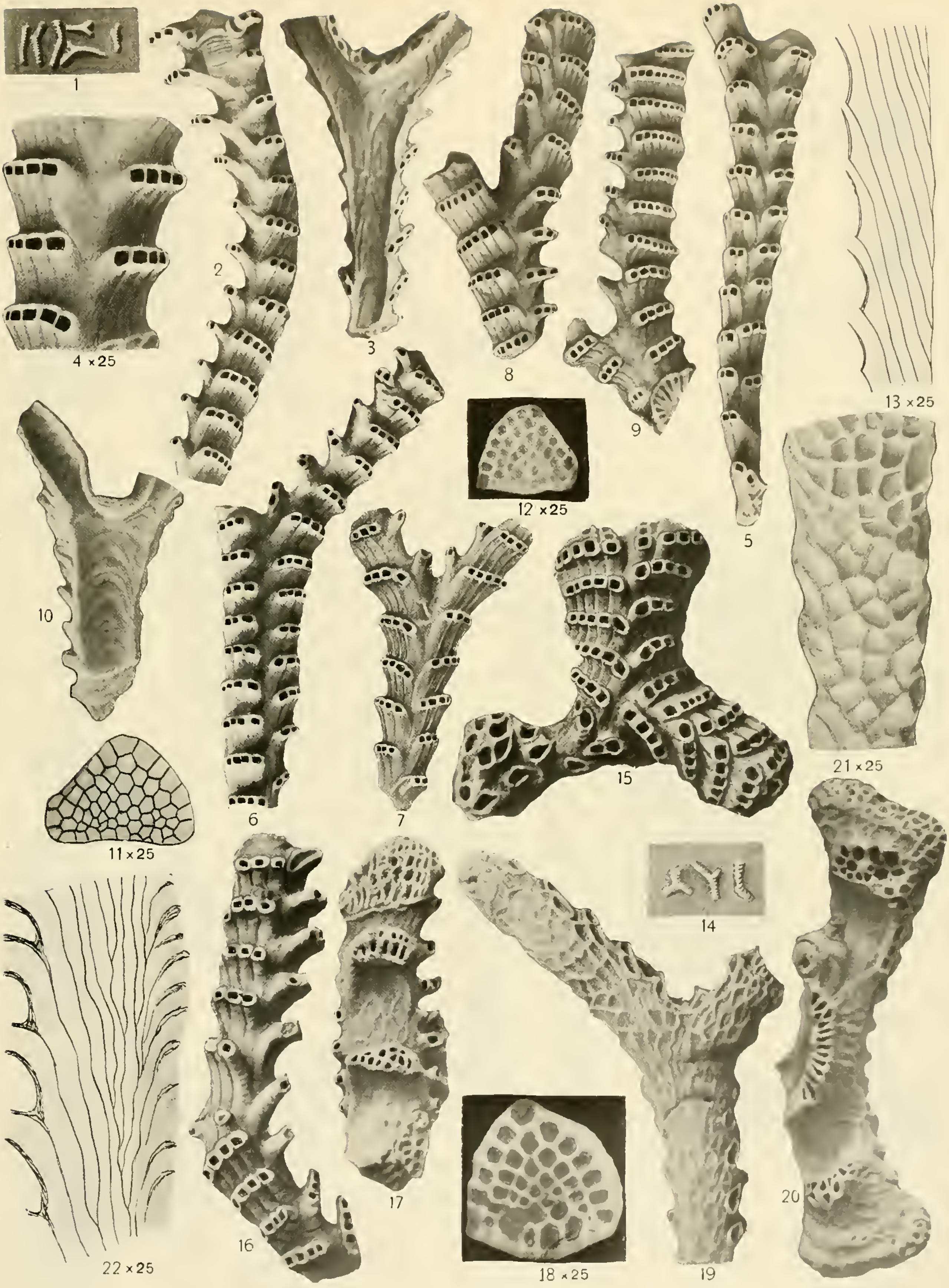
Figs. 21–23. *Idmonea parvula*, new species (p. 780).
21, 22. Frontal and dorsal of the very small free linear zoarium, natural size and × 12.
23. Frontal, × 25.
Middle Jacksonian: One and eight-tenths miles west of Wrightsville, Georgia.
Cat. No. 65417, U.S.N.M.

Figs. 24–27. *Idmonea filiformis*, new species (p. 781).
24. Fragments of the long, linear zoarium, natural size.
25. Frontal, × 12, showing alternate fascicles composed of two zooecia only.
26, 27. Dorsal and lateral views of a branch, × 12.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65418, U.S.N.M.

Plate 139.

Figs. 1–13. *Idmonea petri* D'Archiac, 1846 (p. 781).
1. Fragments of the zoarium, natural size.
2. Branch seen in profile, × 12. At the top is an incomplete ovicell.
3. Fragment showing concave dorsal side, × 12.
4. Portion of figure 2, × 25.
5. Basal, claviform branch, × 12.
6. Portion of a branch at a bifurcation, × 12.
7. A claviform branch with fascicles arranged alternately, × 12.
Vicksburgian: West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65355, U.S.N.M.
8. A branch with 4 to 6 tubes to the fascicle, × 12.
9. A branch with 8 tubes to the fascicle, × 12.
10. Dorsal showing the concave basal lamella, × 12.
11, 12. Normal transverse sections, × 25.
13. Vertical section, × 25.
Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 65356, U.S.N.M.

Figs. 14–22. *Erkosonea admota*, new species (p. 764). (See also Plate 133, fig. 8.)
14. Several fragments, natural size, showing bifurcation.
15. Frontal of a bifurcated specimen, × 12.
16. A narrow branch, × 12, showing convexity of the tubes.
17. Dorsal of a branch with radicular lamellae, × 12.
18. Normal transverse section, × 25.
19. Dorsal exhibiting dactylethrae, × 12.
20. Branch with radicular lamella, × 12.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65357, U.S.N.M.
21. Dorsal, × 25, showing dactylethrae with salient walls.
22. Longitudinal section, × 25.
Upper Jacksonian (Ocala limestone): West bank Sepulga River, Escambia County, Alabama.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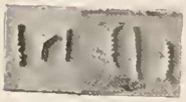
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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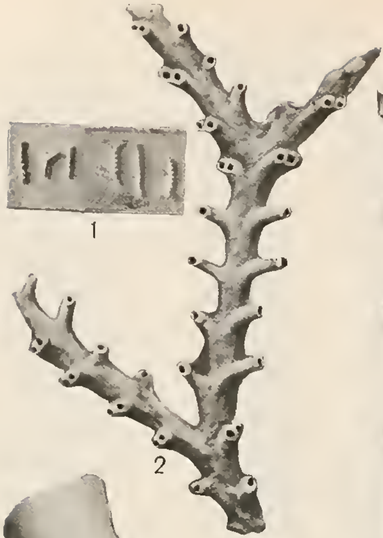
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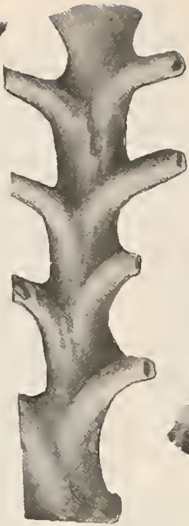
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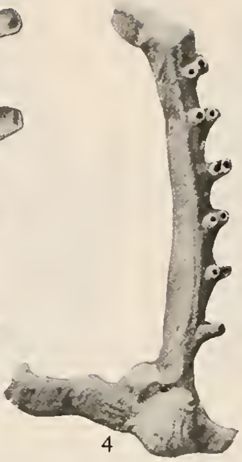
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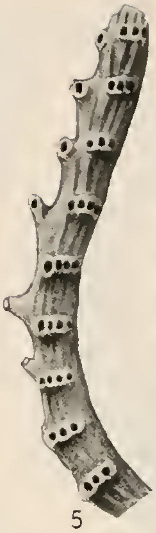
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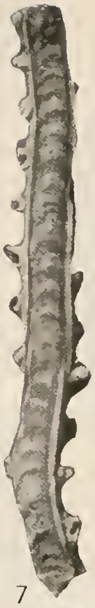
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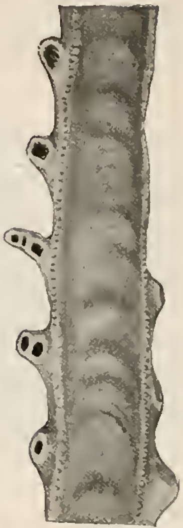
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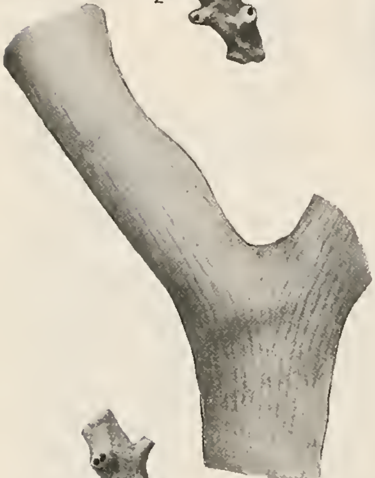
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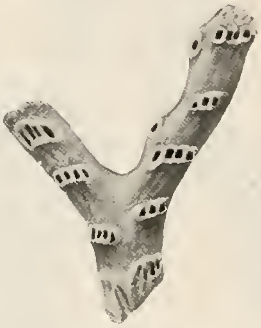
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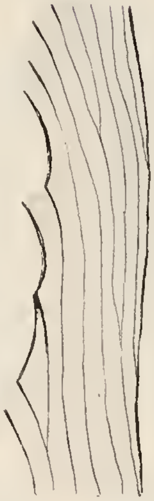
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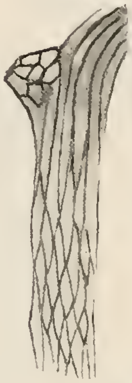
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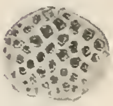
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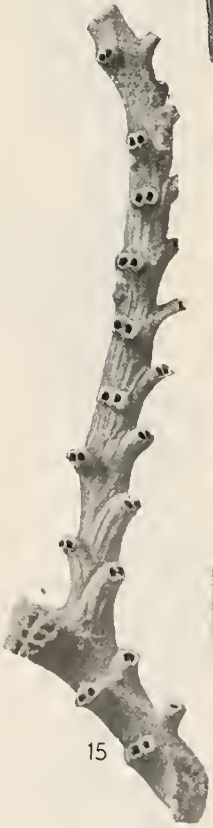
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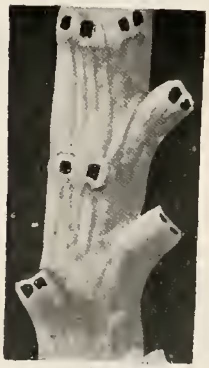
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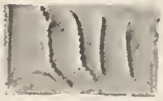
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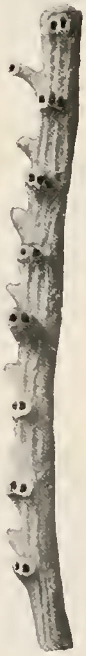
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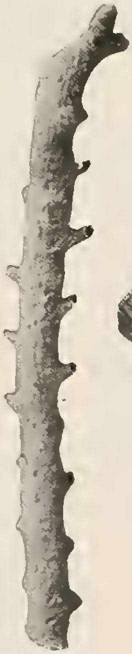
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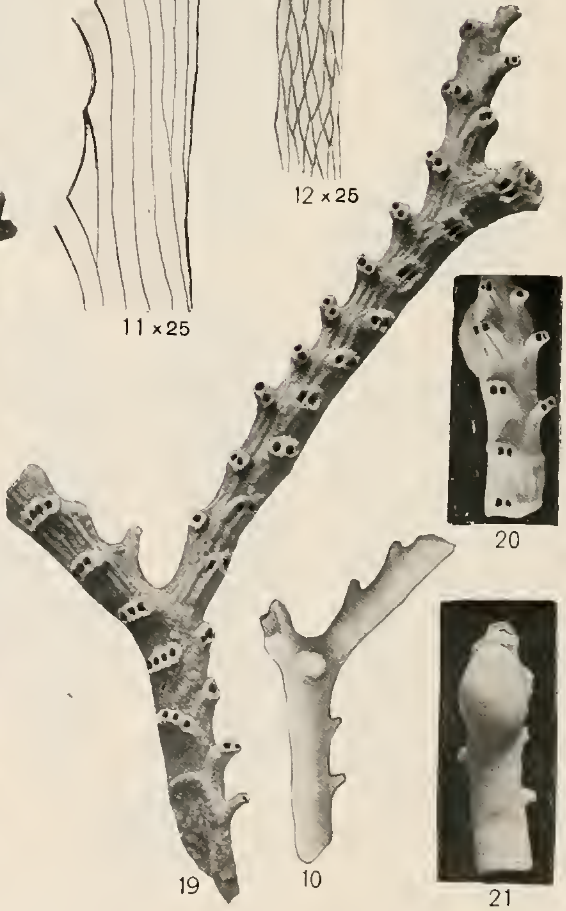
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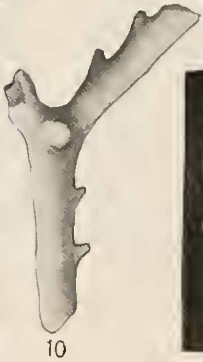
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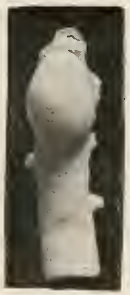
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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 140.

FIGS. 1–13. *Idmonea atlantica* Johnston, 1847 (p. 778).
1. A group of the linear bifurcated branches, natural size.
2. A branch, × 12, with quite divergent fascicles.
3. Portion of the same, × 25.
4. Side view of a branch, × 12, round at the base and flat above.
5. Lateral view of the celluliferous side, × 12.
6. Fragment, × 12, showing aspect where fascicles are broken.
7, 8. Dorsal of a branch, × 12 and × 25.
9. Example, × 25, with convex dorsal and tubes visible.
10. Example with a short radicell, × 12.
11. Longitudinal thin section, × 25.
12. Tangential thin section of the dorsal, × 25, showing the spindle-shaped areas just above the basal lamella.
13. Transverse section, × 25.
Middle Jacksonian (Castle Hayne limestone) : Wilmington, North Carolina.
Cat. No. 65353, U.S.N.M.

FIGS. 14–21. *Tervia tumida* Smitt, 1871 (p. 790).
14. Zoarial fragments, natural size.
15. A branch, × 12, with salient fascicles.
16. Portion of the same branch, × 25.
17. Lateral view of a branch, × 12.
18. Dorsal side of the zoarium, × 12.
19. Usual aspect of the species, × 12, showing worn fascicles.
20, 21. Frontal and dorsal sides of an ovicelled example, × 12.
Middle Jacksonian (Castle Hayne limestone) : Wilmington, North Carolina.
Cat. No. 65354, U.S.N.M.

Plate 141.

Figs. 1–4. *Crisia hörnesi* Reuss, 1847 (p. 704).
1, 2. Dorsal and frontal, × 25, of two segments referred to this European species.
3, 4. Two ovicelled segments, × 25.
Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65336. U.S.N.M.

Figs. 5–7. *Crisia edwardsi* Reuss, 1847 (p. 705).
5, 7. Portions of two segments, × 25.
6. Dorsal of a segment, × 25.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65337. U.S.N.M.

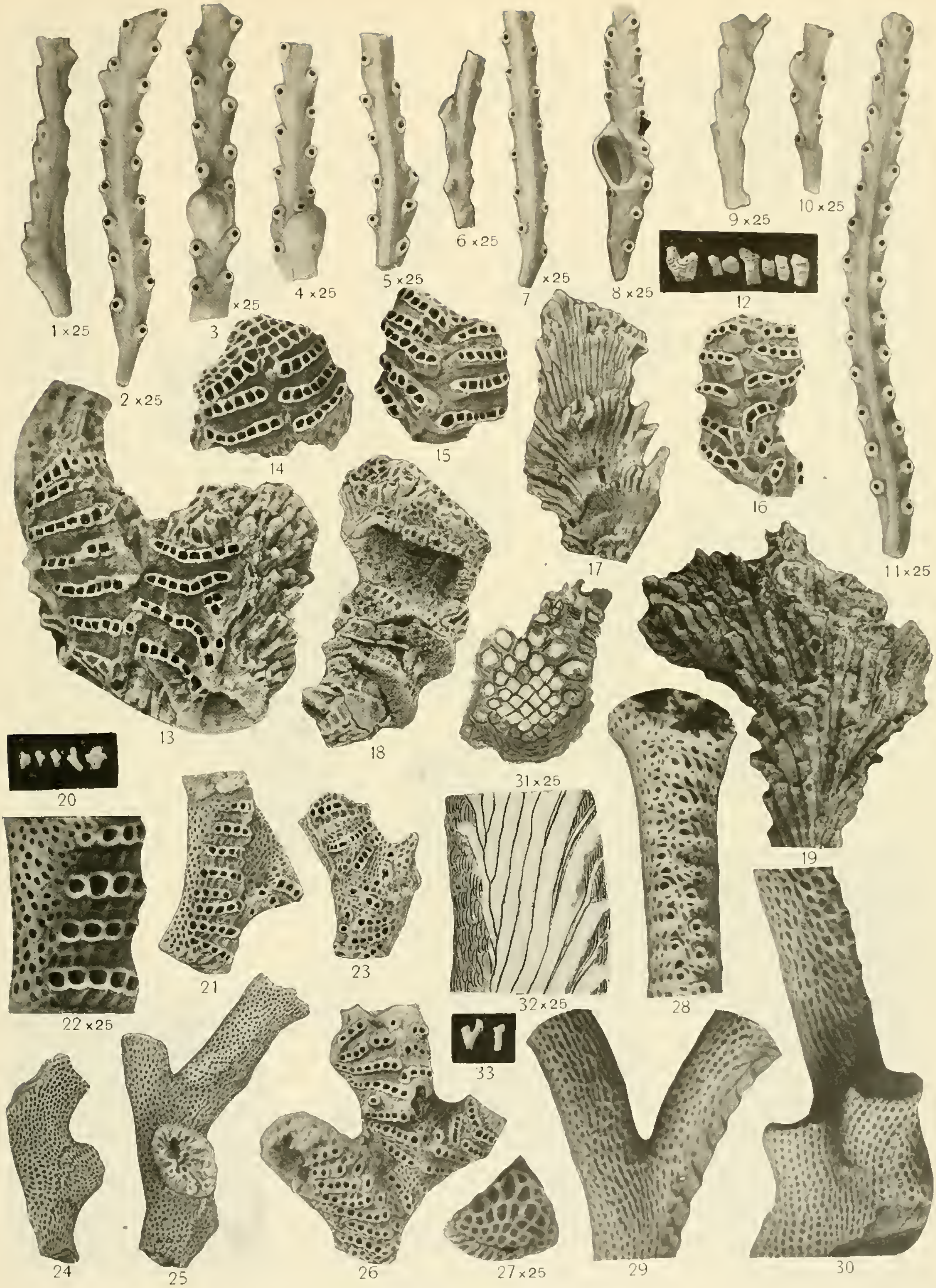
Fig. 8. *Crisia lowei*, new species (p. 706).
A short ovicelled segment, × 25.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65338, U.S.N.M.

Figs. 9–11. *Crisia cribraria* Stimpson, 1853 (p. 706).
9, 10. Dorsal and frontal of two incomplete segments, × 25.
11. A complete segment, × 25.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65339, U.S.N.M.

Figs. 12–19. *Platonea lamellifera*, new species (p. 760).
12. Fragments of the idmoneiform zoarium, natural size.
13. Large zoarium, × 12.
14. Fragment with margin of growth, × 12.
15. Ovicelled zoarium, × 12.
16. Young zoarium, × 12.
17. An example with basal lamella altered chemically, × 12; the tubes are visible.
18. Dorsal showing the radicular lamellae, × 12.
19. The basal lamella is worn and the tubes are visible and free, × 12.
Lower Jacksonian: Three and one-half miles southeast of Shell Bluff Post Office, Georgia.
Cat. No. 65340, U.S.N.M.

Figs. 20–27. *Tretonea levis*, new species (p. 769).
20. Zoarial fragments, natural size.
21, 22. Lateral view of a fragment, × 12 and × 25.
23. Frontal view, × 12.
24. Dorsal of the zoarium, × 12.
25. Dorsal with pores in quincunx, × 12.
26. Branch with ovicell occupying the upper portion, × 12.
27. Triangular transverse section, × 25.
Lower Jacksonian: Three and one-half miles southeast of Shell Bluff Post Office, Georgia.
Cat. No. 65341, U.S.N.M.

Figs. 28–33. *Polyascosoecia imbricata*, new species (p. 840).
28. Anterior face, × 12.
29. Dorsal or posterior face, × 12.
30. Lateral face, × 12. The proximal lip of the peristome is raised.
31. Transverse section in the vicinity of a bifurcation, × 25.
32. Longitudinal section, × 25.
33. Fragments, natural size.
Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65342, U.S.N.M.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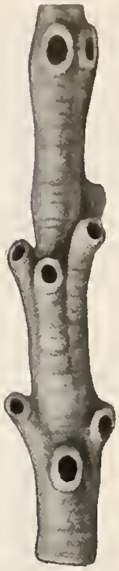
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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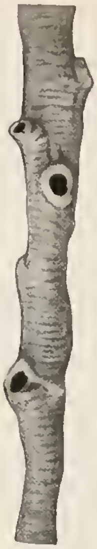
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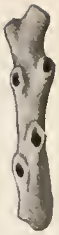
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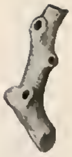
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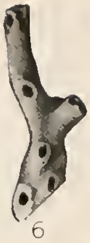
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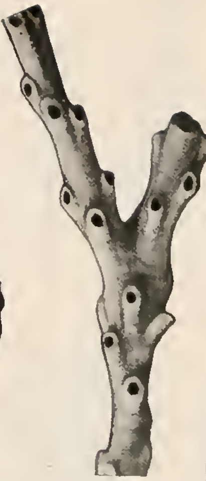
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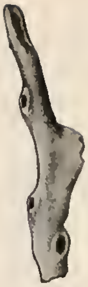
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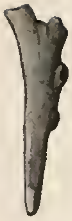
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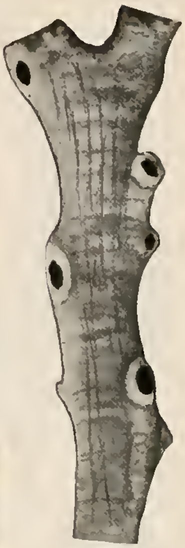
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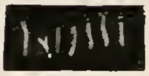
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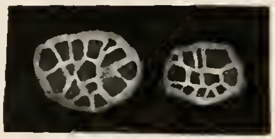
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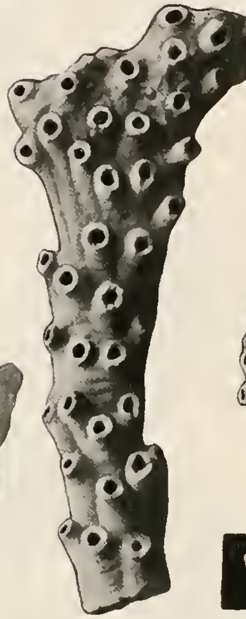
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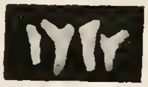
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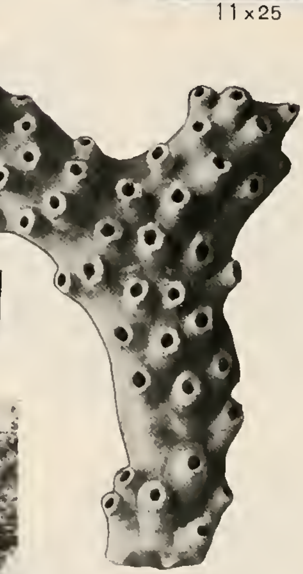
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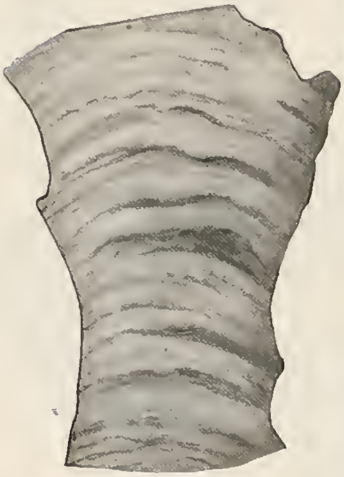
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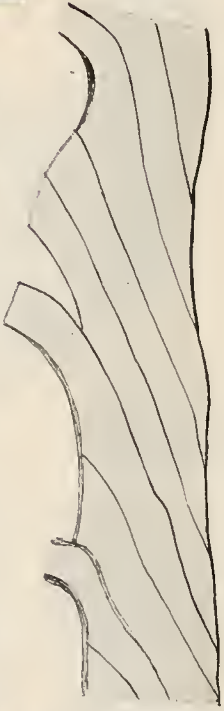
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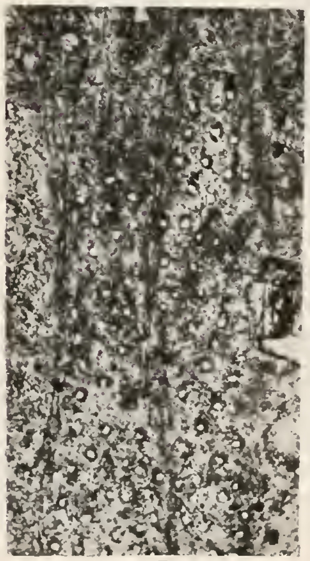
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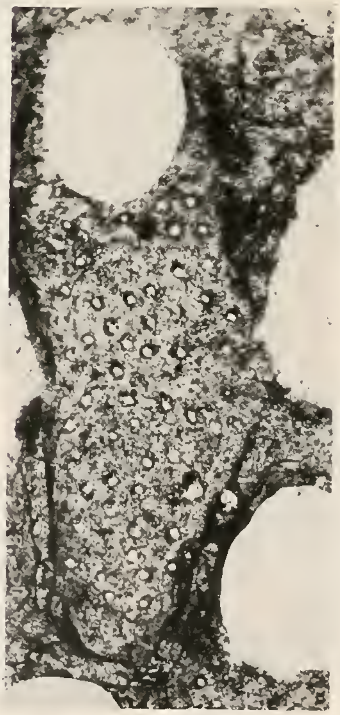
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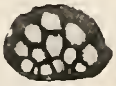
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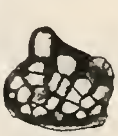
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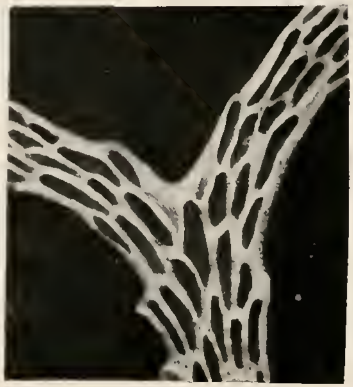
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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 142.

FIGS. 1–11. *Filisparsa fallax*, new species (p. 693).
- 1. Fragments of the filiform zoarium, natural size.
- 2. Triserial branch, × 25, very abundant at this horizon.
- 3. Biserial branch, × 25.

Vicksburgian: One mile north of Monroeville, Alabama.
Cat. No. 65325, U.S.N.M.

- 4, 5, 6. Small biserial branches, × 12.
- 7. Triserial branch, × 12.
- 8, 9. Dorsal of small biserial branches, × 12.
- 10. Dorsal, × 25, showing the longitudinal and transverse striations.
- 11. Transverse sections, × 25.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65326, U.S.N.M.

FIGS. 12–21. *Filisparsa ingens*, new species (p. 694).
- 12. Zoarial fragments, natural size.
- 13, 14. Multiserial branches, × 12, showing the usual aspect.
- 15. Dorsal, × 25, presenting large transverse wrinkles.
- 16. Longitudinal thin section, × 25.
- 17. Tangential thin section of the dorsal, × 100. The structure is similar to that of the frontal.
- 18. Tangential section of the frontal, × 100.
- 19, 20. Transverse thin sections, × 12.
- 21. View of interior, × 12, obtained by the abrasion of the dorsal, showing characteristic aspect of dorsal gemmation.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65327, U.S.N.M.

PLATE 143.

FIGS. 1–11. *Filisparsa fallax*, new species (p. 693).

1, 2. Views, natural size, of the sharply branched zoarium.

3. Frontal, × 12.

4. Young branch, × 25, showing salient peristomes and numerous vacuoles.

5. Frontal, × 25, with thick peristomes, large nervi and many vacuoles.

6. Branch with ovicell, × 12.

7. Frontal of branch, × 25, with small apertures.

8. An old branch, × 25. The vacuoles are numerous and large.

9. An example, × 25, with the apertures grouped transversely. Two large vacuoles are present.

10. Normal posterior face, × 25.

11. Dorsal with small nervi, × 25.

12. Dorsal showing attenuated sulci, × 25.

13. Tangential section of the frontal, × 25.

14. Tangential section of the frontal, × 100.

15. Tangential section of the dorsal, × 25.

16. Another tangential section of the dorsal, × 25. The obliquity of the vacuoles is visible.

17. Interior of the tubes, × 12, showing arrangement in lozenge shape areas. There is no central tube.

18–21. Cross sections of the branches, × 25.

22. Cross section of a branch at a bifurcation, × 25.

23. Longitudinal section, × 25, showing the great complexity of the dorsal network.

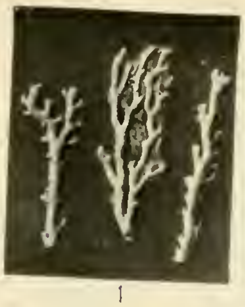
24. Another longitudinal section, × 25, in which the frontal vacuoles are visible.

25. A third section, × 25, showing vacuoles of the dorsal (to the right).

26. Longitudinal thin section, × 25, illustrating the lamellar and scaly wall structure.

Jacksonian: Wilmington, North Carolina, 1½ miles southeast of Lilly, Dooly County, Georgia (6, 4), and Rich Hill, Crawford County, Georgia (figs. 5, 7, 12).

Cat. No. 65241, 65242, 65312, U.S.N.M.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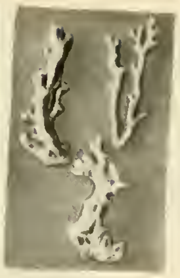
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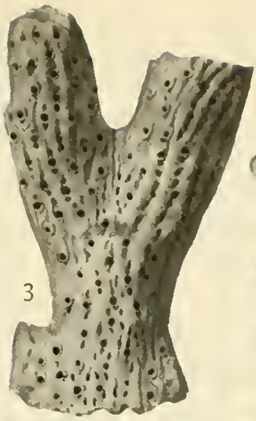
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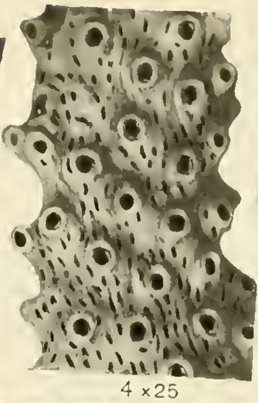
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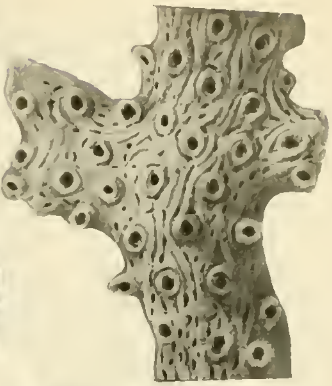
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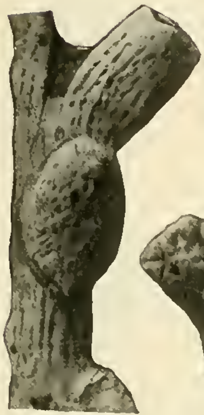
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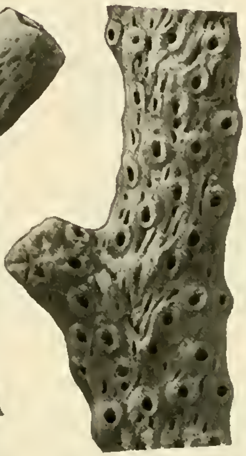
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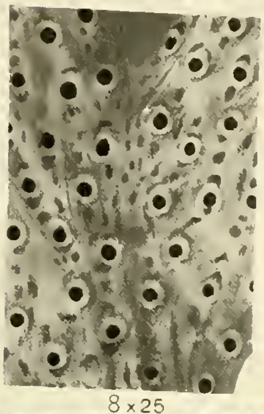
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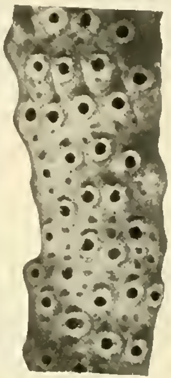
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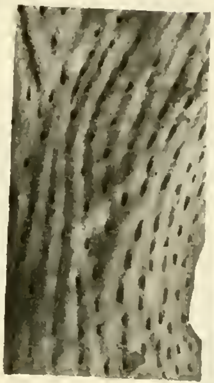
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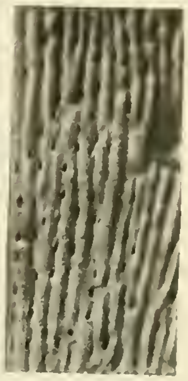
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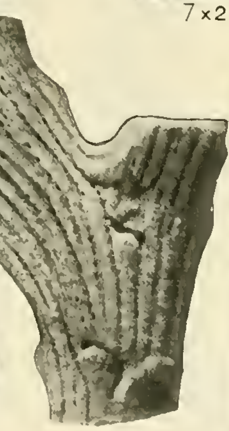
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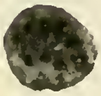
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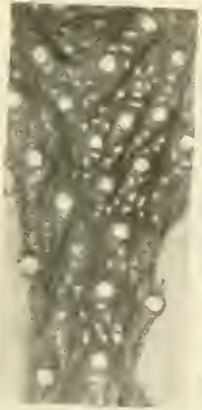
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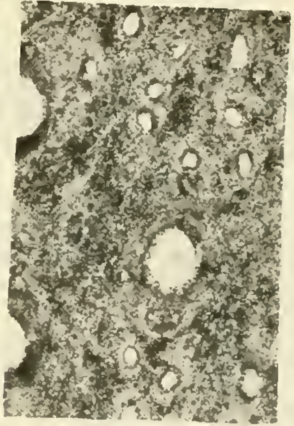
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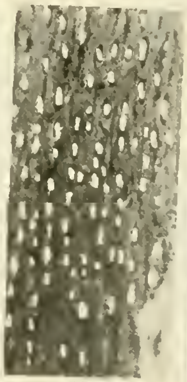
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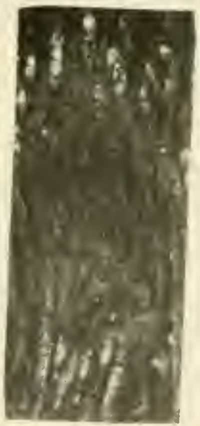
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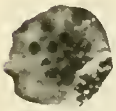
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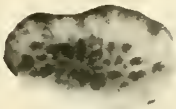
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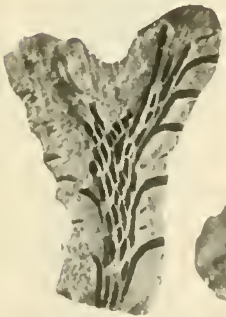
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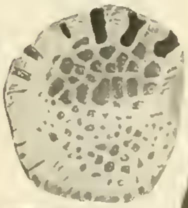
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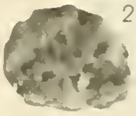
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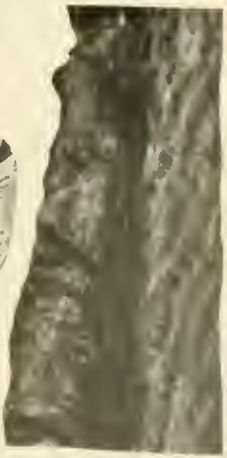
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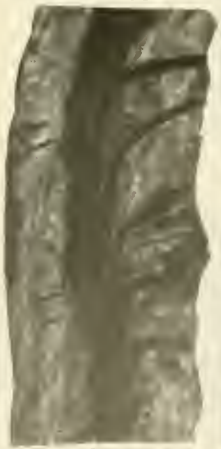
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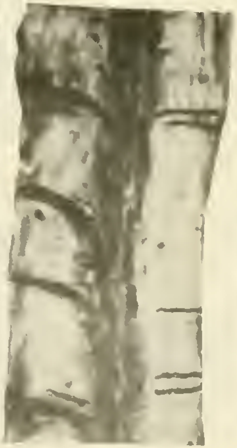
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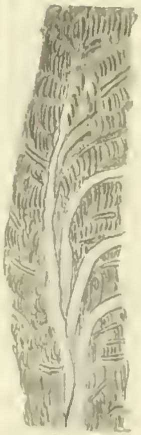
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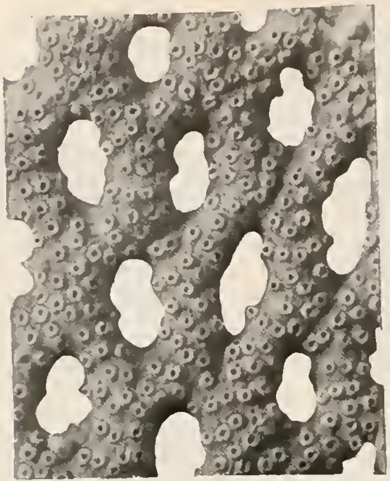
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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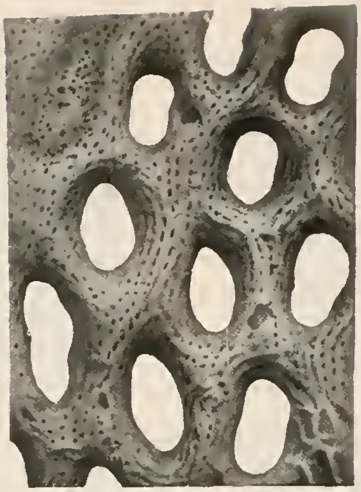
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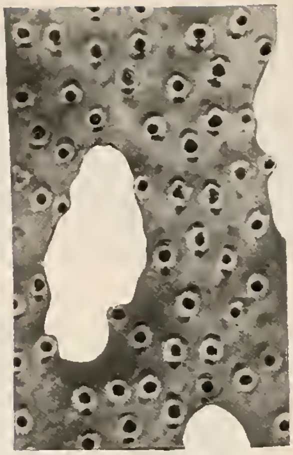
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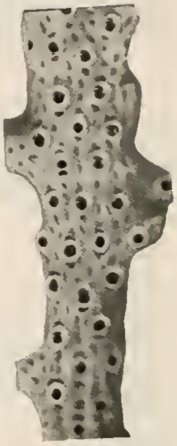
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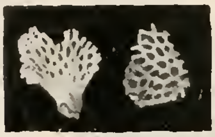
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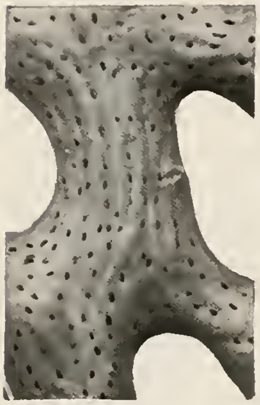
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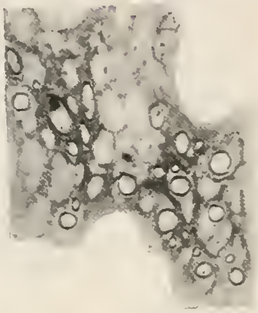
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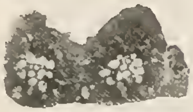
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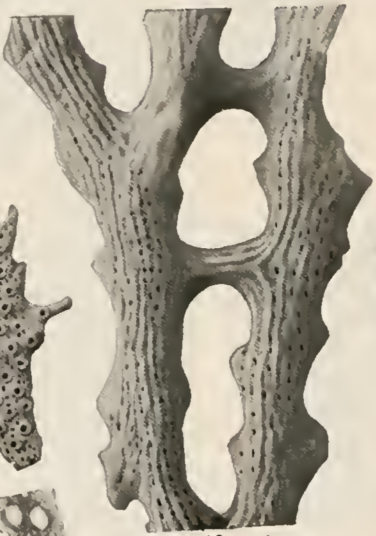
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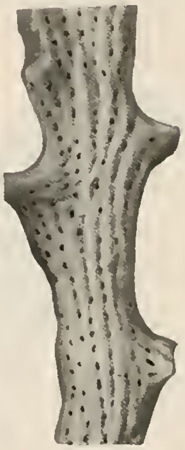
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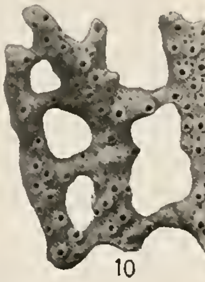
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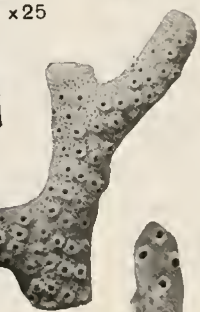
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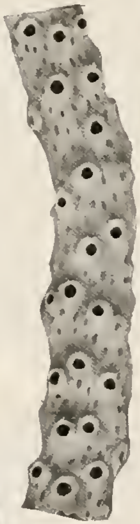
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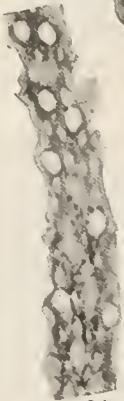
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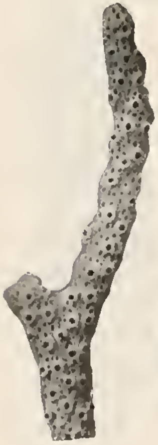
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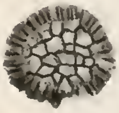
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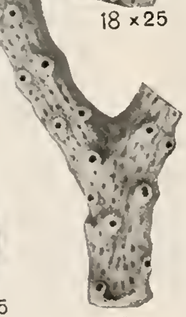
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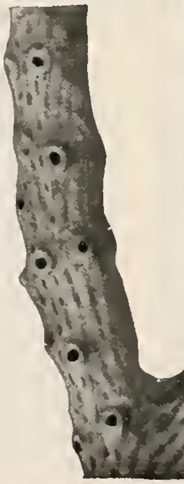
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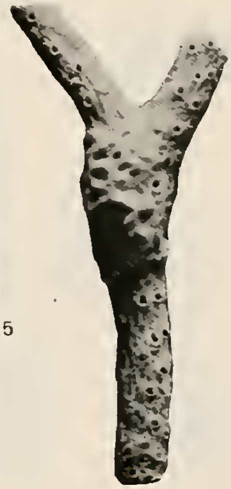
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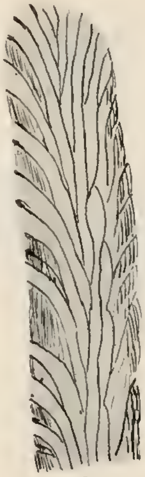
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JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 144.

FIGS. 1–8. *Hornera reteramae*, new species (p. 799).
1. Frontal of the reticulated zoarium, × 12.
2. Dorsal, × 12, showing shallow sulci and large vacuoles.
3. Surface of frontal, × 25.
4, 5. Fragments of the reticulated zoarium, natural size.
6. Portion of the dorsal, × 25.
7. Tangential thin section of the frontal, × 25.
8. Transverse section of the branches, × 12.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65328, U.S.N.M.

FIGS. 9–13. *Hornera polyporoides*, new species (p. 799).
9. Zoarial fragments, natural size.
10. A fragment, × 12, showing the connecting trabeculae.
11. Frontal of a branch, × 25.
12. Dorsal, × 25, showing narrow nervi and wide sulci.
13. Another aspect of the dorsal, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65329, U.S.N.M.

FIGS. 14–23. *Hornera tenuirama*, new species (p. 800).
14. Zoarial fragments, natural size, consisting of thin small rami.
15, 16, 17. Three views of the zoarial aspect, × 12.
18. Frontal face, × 25.
19. Dorsal, × 25. The dorsal proper is very narrow.
20. Transverse section of a branch, × 25, showing rounded frontal and very narrow dorsal.
21. Tangential thin section of the frontal, × 25.
22. Ovicelled specimen, × 12.
23. Longitudinal thin section, × 25.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65330, U.S.N.M.

PLATE 145.

FIGS. 1–3. *Hornera tuberosa*, new species (p. 800).

1. Fragment of the erect branching zoarium, natural size.
2. Frontal of the same specimen, × 25.
3. Dorsal, × 25, exhibiting the numerous tuberosities.

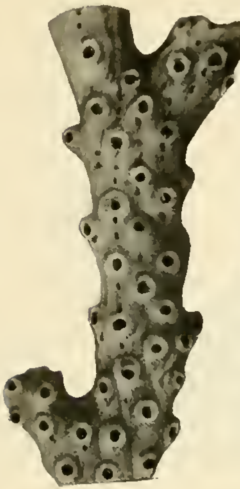
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65331, U.S.N.M.

FIGS. 4–19. *Hornera porosa* Stoliczka, 1862 (p. 800).

4. Zoarial fragments, natural size.
5. Frontal of young branch, × 12.
6. Dorsal of adult branch, × 12.
7. Very young branch, × 12.
8. A branch with salient peristomes, × 25.
9. Another branch, × 25, showing large, salient peristomes.
10. Well preserved specimen, × 25, with little salient peristomes.
11. Aspect of a worn branch, × 25.
12. Dorsal showing small sulci, × 25.
13. Normal aspect of dorsal, × 25.
14. Specimen with wide nervi and very small sulci, × 25.
15. Dorsal with small vacuoles, × 25.
16. Transverse section of a branch, × 25, illustrating disposition of tubes and vacuoles on the frontal and vacuoles only on the dorsal.
17. Tangential section through the dorsal, × 25, cutting the vacuoles.
18. Thin section, × 100, showing scaly structure of the zoarial walls.
19. Tangential thin section of the dorsal, × 100.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65332, U.S.N.M.

Middle Jacksonian: Wilmington, North Carolina (figs 12, 14), and Rich Hill, Crawford County, Georgia (fig. 8).
Cat Nos. 65478, 65479, U.S.N.M.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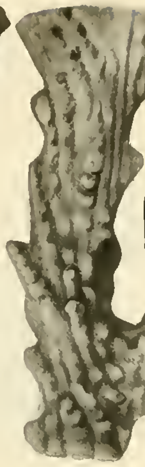
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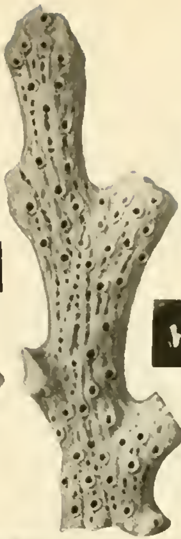
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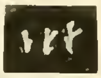
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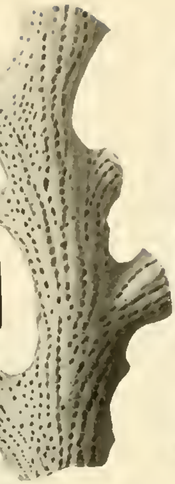
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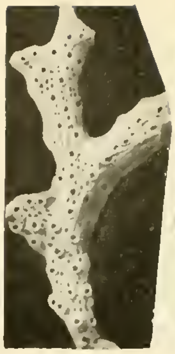
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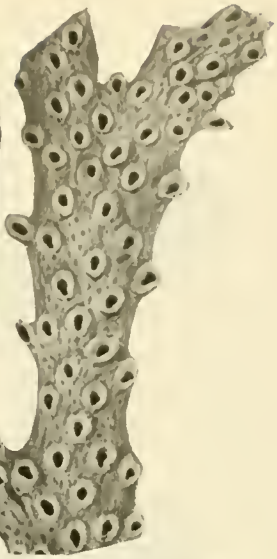
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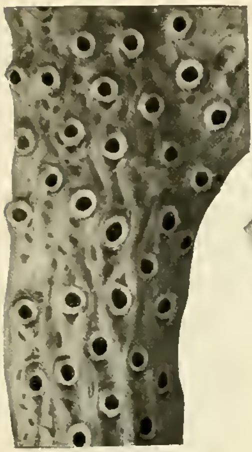
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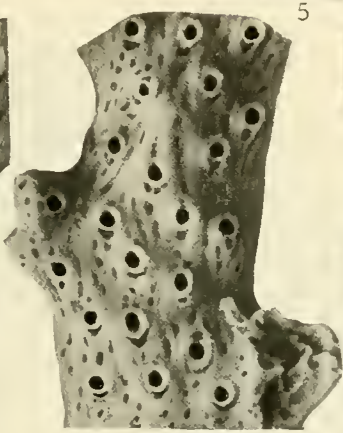
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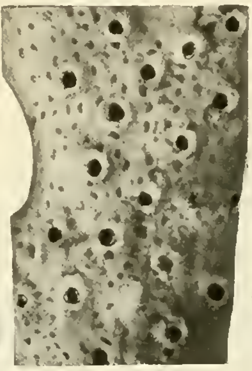
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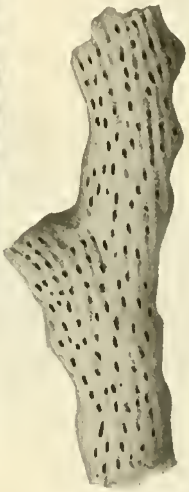
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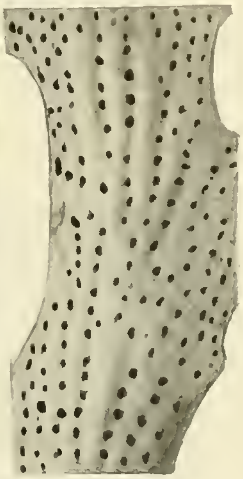
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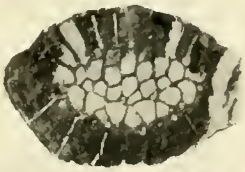
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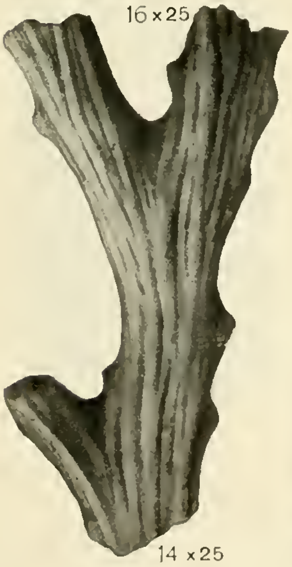
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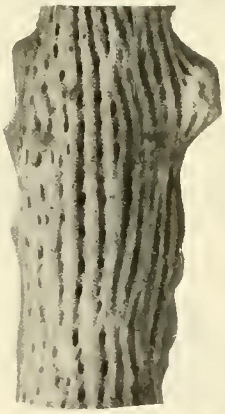
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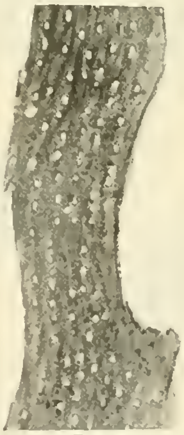
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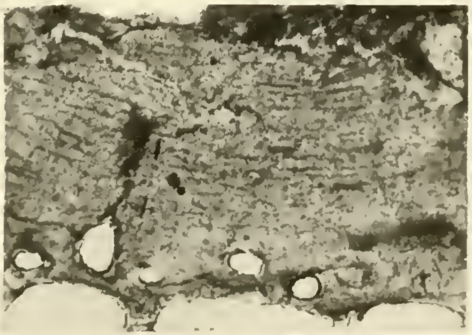
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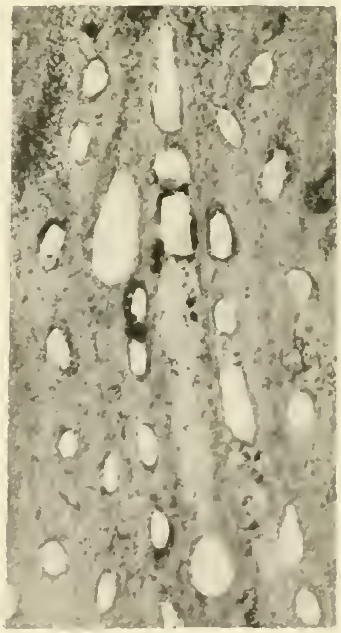
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Jacksonian Cyclostomatous Bryozoa.

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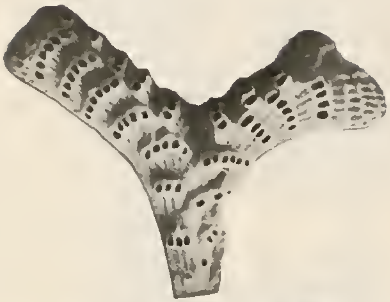

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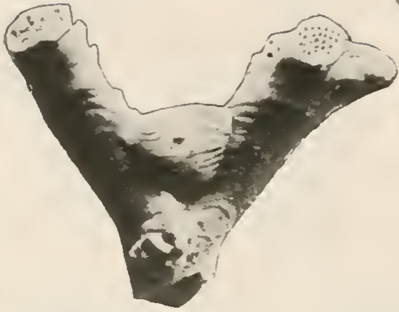

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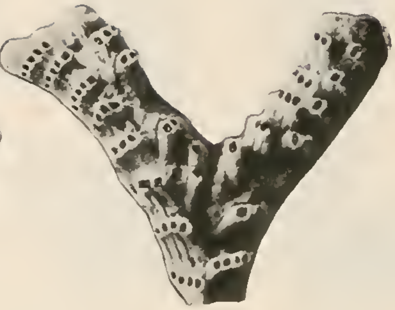

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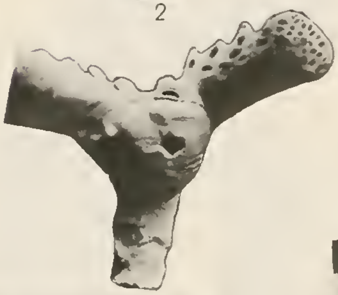

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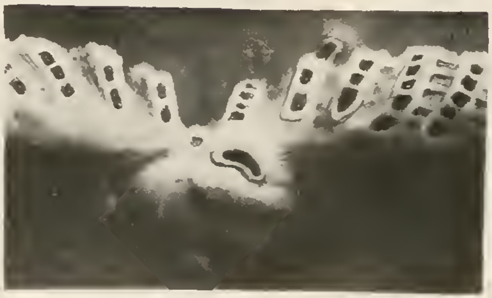

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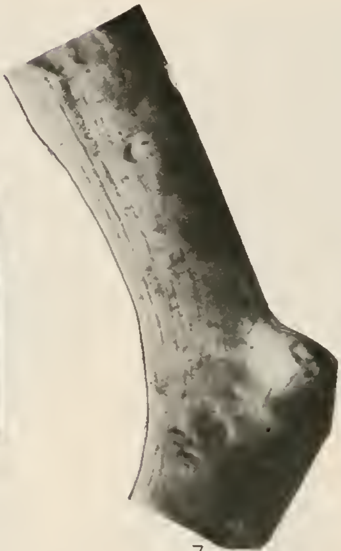

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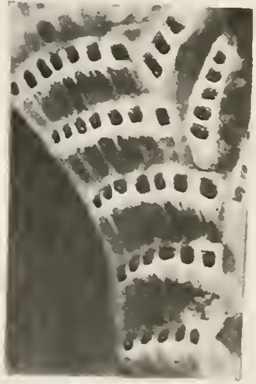

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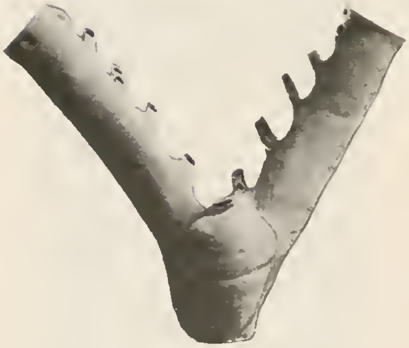

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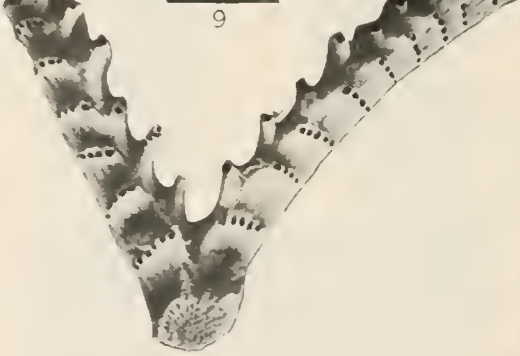

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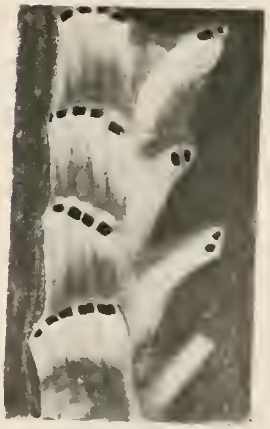

12 ×25

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 146.

FIGS. 1–8. *Terria globulifera*, new species (p. 791).
1. Zoarial fragments, natural size.
2. The cellular anterior face, × 12.
3. Posterior face, × 12, showing an ovicell at the bifurcation.
4. Anterior face of another example, × 12.
5. Posterior side of the same specimen, × 12, bearing an ovicell.
6. Portion of the same, × 25, exhibiting the oeciostome more clearly.
7. Posterior side, × 25, illustrating the longitudinal striae separating the tubes.
8. Cellular side, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65366, U.S.N.M.

FIGS. 9–12. *Terria pyrifera*, new species (p. 792).
9. The type specimen, natural size.
10. Posterior side of the type, × 12, bearing the pyriform ovicell.
11. Anterior side of the same example, × 12.
12. Portion of the same, × 25.

Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65367, U.S.N.M.

PLATE 147.

FIGS. 1–11. *Terria gracilis*, new species (p. 788).
1, 2. Two groups of the slender zoarial branches, natural size.
3. Dorsal of a wide branch, × 12. The tubes are separated by a salient thread.
4. Wide branch with oblique fascicles, × 12.
5. Branch with the tubes in verticells at the base, × 12.
6. Large branch, × 12, with tubes in six series and arranged in verticells at the base.
7. Dorsal and frontal of very slender branches without fascicles, × 12.
8. Branches bearing the dorsal ovicell, × 12.
9, 10. Frontal of slender branches without fascicles, × 12.
11. Longitudinal section, × 25.
Middle Jacksonian: Wilmington, North Carolina, and near Lenuds Ferry, South Carolina (figs. 5, 6, 8).
Cat. Nos. 65434, 65482, U.S.N.M.

FIGS. 12–14. *Terria parvula*, new species (p. 790).
12. Fragments of the small zoaria, natural size.
13. Anterior or celluliforms and posterior or dorsal sides, × 12.
14. Anterior side, × 25.
Upper Jacksonian (Ocala limestone): Chipola River, east of Marianna, Jackson County, Florida.
Cat. No. 65435, U.S.N.M.

FIGS. 15–27. *Frondipora laevigata*, new species (p. 806).
15. Four of the compressed branches, natural size.
16. Anterior face of a branch, × 6, with the fascicles made up of tubes arranged in groups.
17, 18. Posterior side of two branches, × 6, showing longitudinal striations.
19, 20. Anterior side of two small branches, × 6. The tubes are not in distinct groups.
21. Anterior side, × 6, showing the smooth interfascicular areas.
22, 23. Celluliferous side of two other branches, × 6.
24. Longitudinal thin section, × 12, through the middle of a specimen with fascicles arranged alternately.
25. Another longitudinal thin section, × 12, cutting the fascicles.
26. Transverse thin section, × 12, in a fascicle.
27. Another transverse section, × 12, taken just before a bifurcation.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65436, U.S.N.M.

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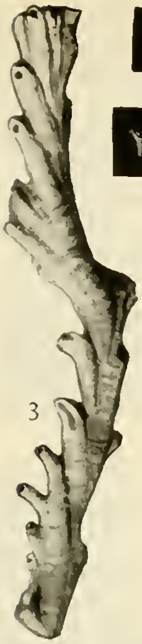
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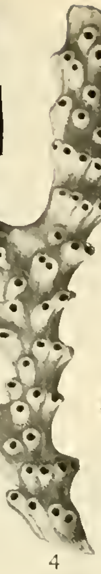
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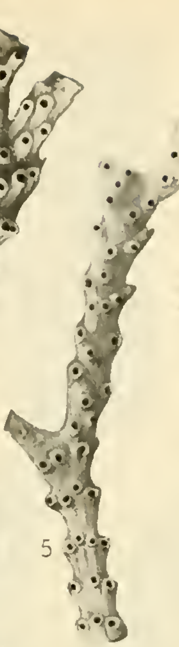
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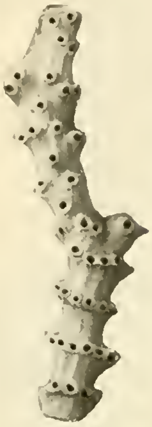
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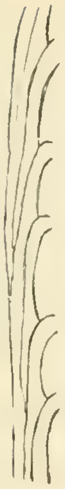
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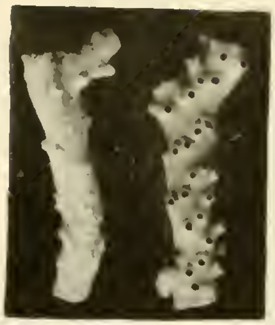
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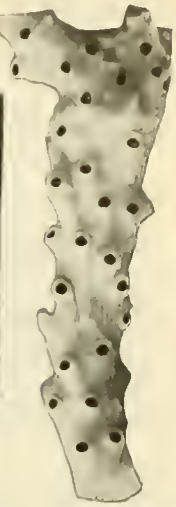
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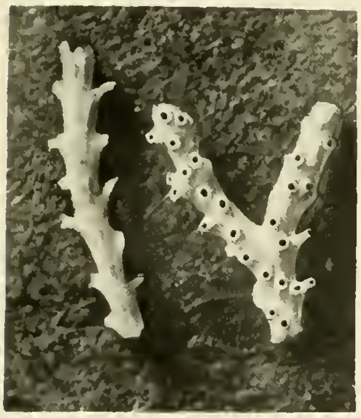
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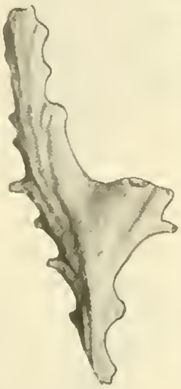
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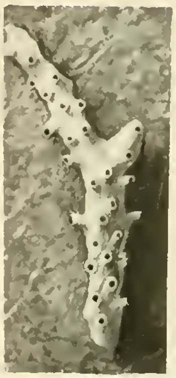
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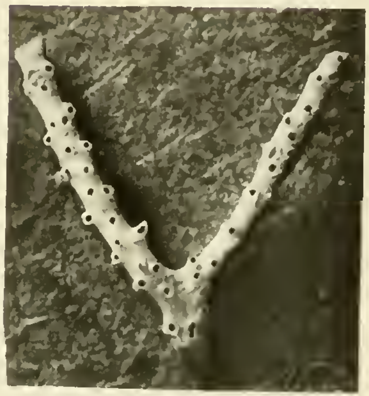
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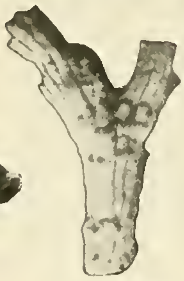
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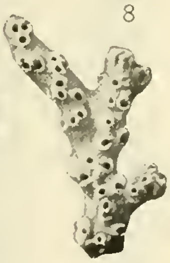
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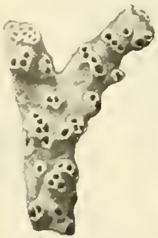
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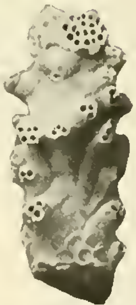
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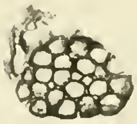
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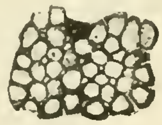
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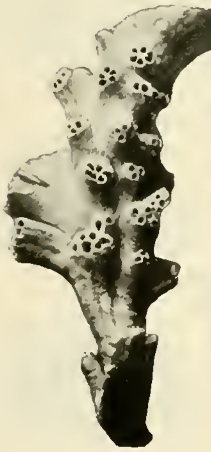
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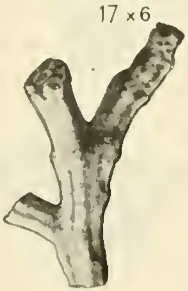
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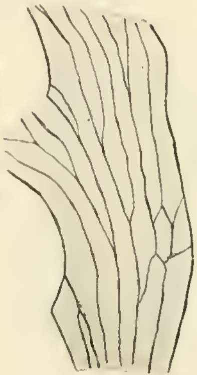
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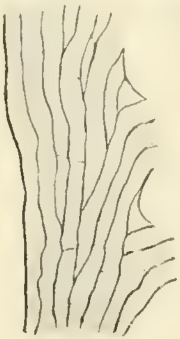
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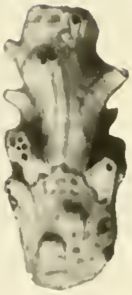
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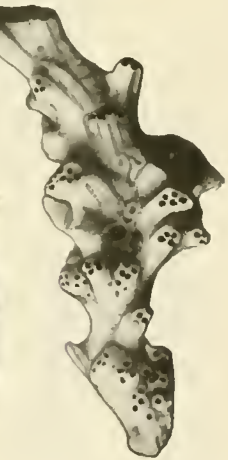
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Jacksonian Cyclostomatous Bryozoa.

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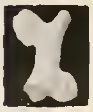
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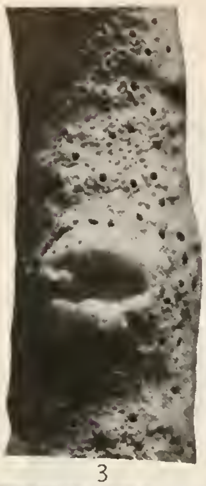
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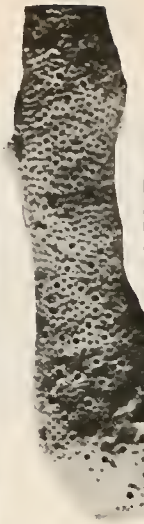
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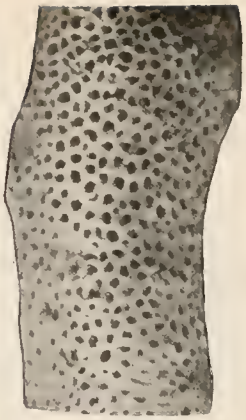
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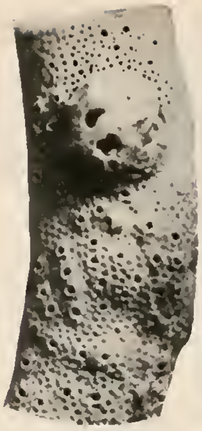
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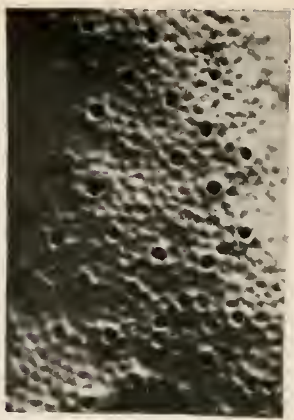
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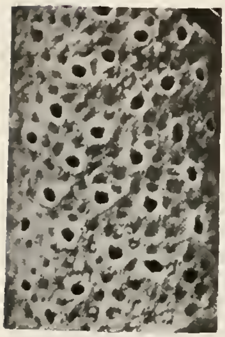
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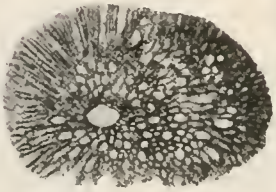
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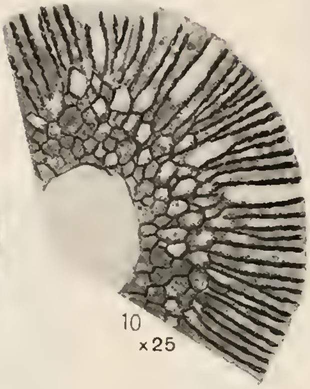
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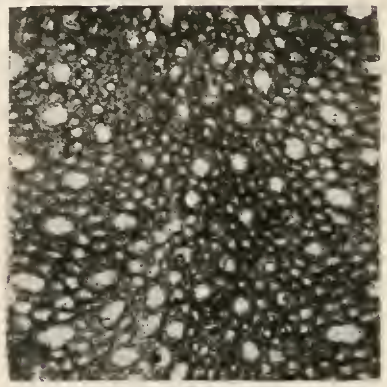
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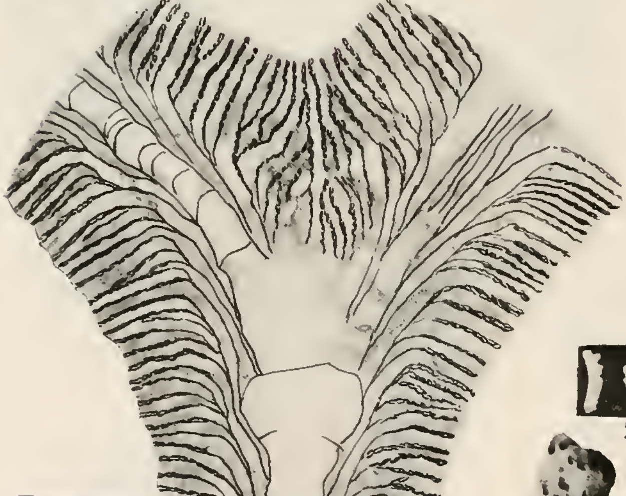
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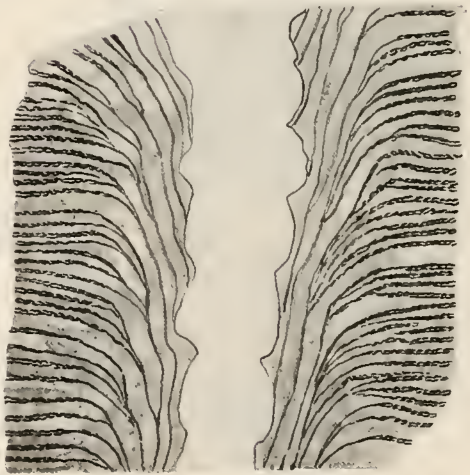
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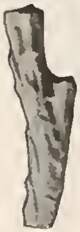
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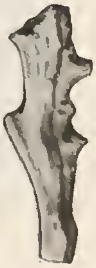
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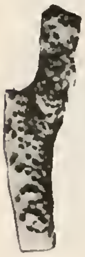
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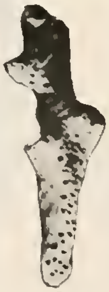
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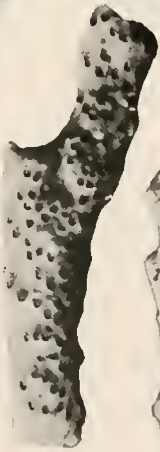
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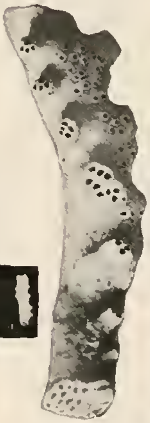
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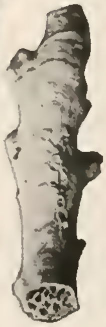
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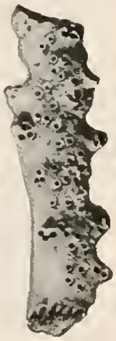
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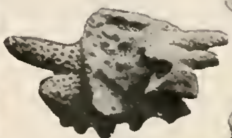
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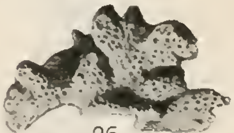
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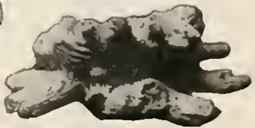

27 ×6

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 148.

FIGS. 1–13. *Parleiosoecia jacksonica*, new species (p. 824).

1, 2. Unbranched and branched specimens of the zoarium, natural size.
3. Ovicelled branch, × 12.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 65446, U.S.N.M.
4, 5. Small but complete zoarium, × 12, and surface, × 25.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65447, U.S.N.M.
6. Branch, × 12, with the globular smooth ovicell.
7. Surface of specimen, × 25.
Middle Jacksonian: Eighteen miles west of Wrightsville, Georgia.
Cat. No. 65448, U.S.N.M.
8. Surface of another zoarium, × 25, with salient peristomes
Middle Jacksonian: Seventeen miles northeast of Hawkinsville, Georgia.
Cat. No. 65449, U.S.N.M.
9. Transverse thin section, × 12, of an unsymmetrical branch.
10. Portion of another transverse thin section, × 25.
11. Tangential thin section, × 25.
12. Longitudinal thin section, × 25. The internal cavity is closed by convex diaphragms.
13. Another longitudinal thin section, × 25, showing regular constrictions of the interior.
Middle Jacksonian: Rich Hill, Crawford County, Georgia.
Cat. No. 65446, U.S.N.M.

FIGS. 14–19. *Fasciculipora surculifera*, new species (p. 808).

14, 15, 16. Two small incomplete branches, natural size, and views, × 6, of their dorsal surface.
17, 18. Frontal views of the same specimens, × 6.
19. Specimen shown in figure 17, × 25.
Upper Jacksonian (Ocala limestone): Alachua, Florida.
Cat. No. 65450, U.S.N.M.

FIGS. 20–23. *Frondipora interporosa*, new species (p. 806).

20. Three fragments, natural size.
21. Lateral view of branch, × 6.
22. Posterior or dorsal side, × 6.
23. Frontal, × 6, showing the tubes between the fascicles.
Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65451, U.S.N.M.

FIGS. 24–27. *Telopora patens*, new species (p. 807).

24. The type zoarium, natural size.
25–27. Lower face or dorsal, upper or anterior face, and lateral view of the same zoarium, × 6.
Middle Jacksonian (Castle Hayne limestone): Wilmington, North Carolina.
Cat. No. 65452, U.S.N.M.

PLATE 149.

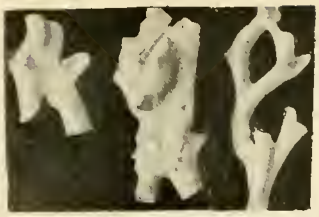
FIG. 1–14. *Tretocycloecia reticulata*, new species (p. 827).

1. Fragments of the free solid reticulate zoarium, natural size.
2. Surface of a zoarium with ovicell, × 12. The ovicell is fragile, little globular.
3. Surface of a zoarium, × 12. The zooecial orifices are grouped in incomplete zones separated by zones of mesopores.
4. Surface, × 12, with broken ovicell in the middle to the left. The ovicell is of little depth and is perforated by all the tubes.
5. Same surface as figure 3, × 25. Some mesopores are closed.
6. Surface, × 12, with many mesopores closed by a fragile calcareous lamella.
7. Another variation, × 12, with mesopores often closed by a lamella.
8. Surface, × 12, showing mesopores grouped in irregular zones.
9. Same zoarium as figure 8, × 25.
10. Transverse thin section, × 12.
11. Longitudinal thin section, × 12. The separation between the two axial tubes of ramification occurred near the base of the cylindrical branch.
12. Longitudinal thin section, × 25. The walls of the mesopores are vesicular.

13, 14. Tangential thin section, × 25, and × 100.

Middle Jacksonian: Eutaw Springs, South Carolina.

Cat. No. 63374, U.S.N.M.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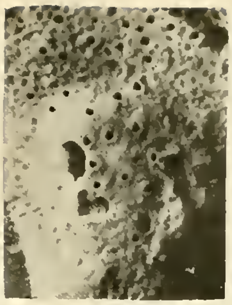
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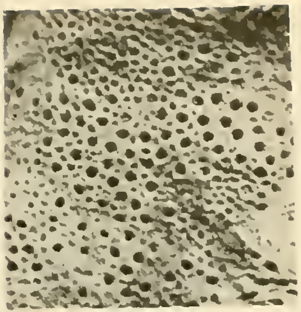
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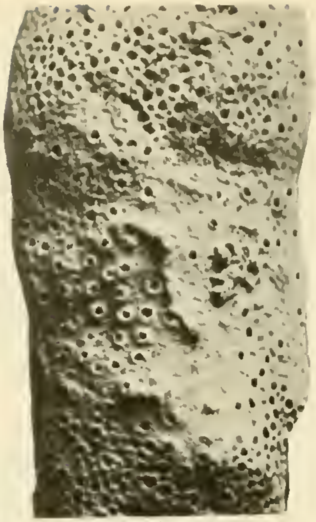
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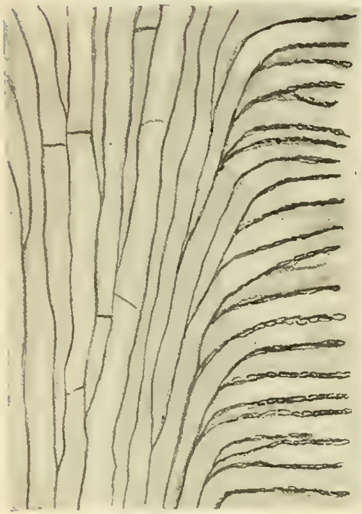
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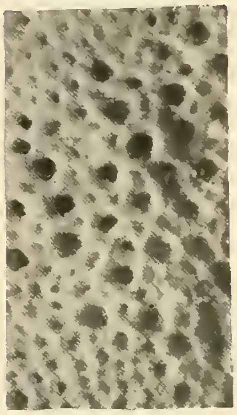
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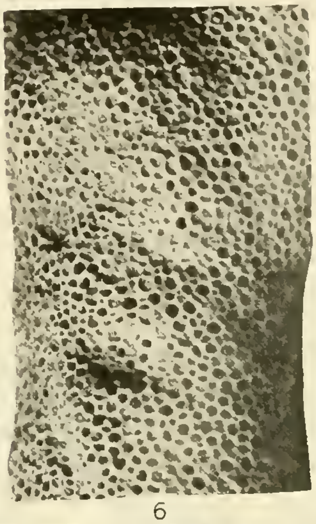
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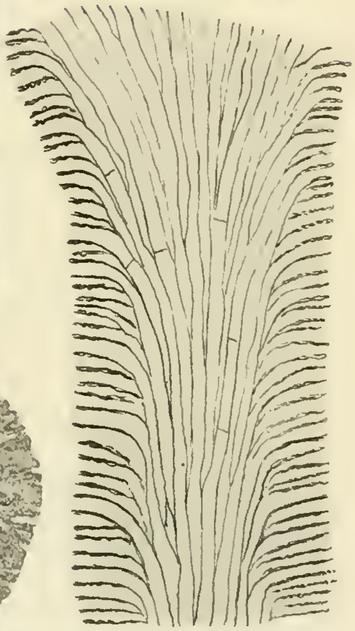
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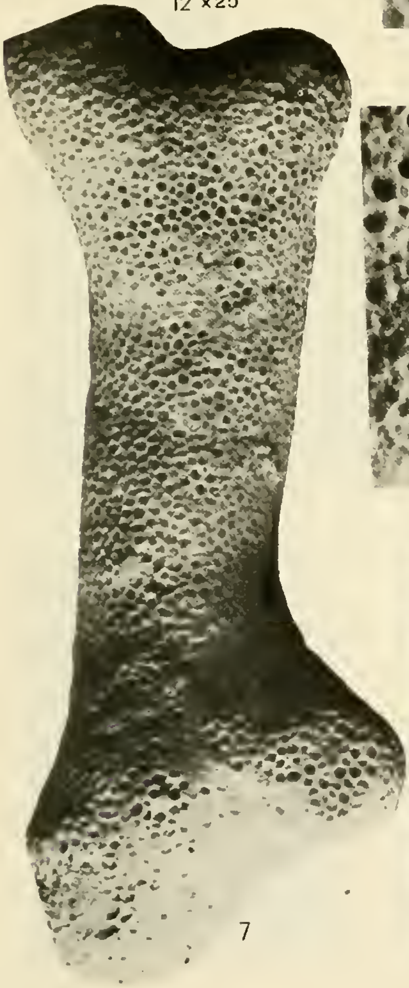
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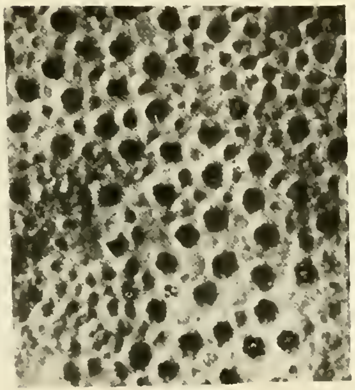
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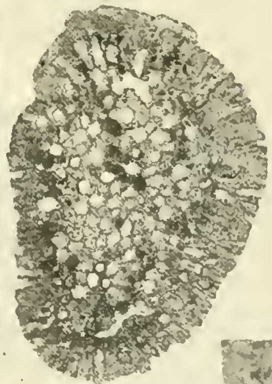
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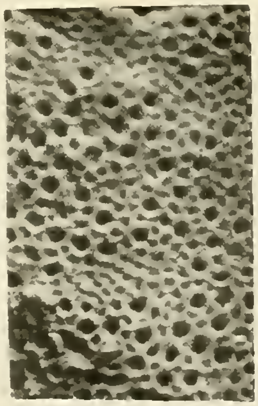
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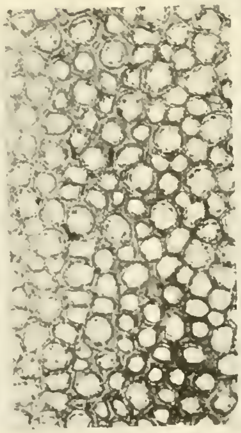
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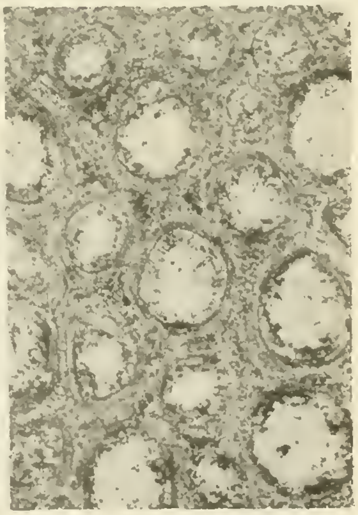
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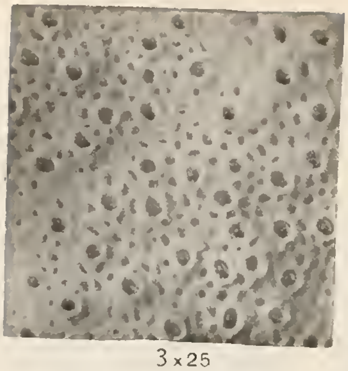
JACKSONIAN CYCLOSTOMATOUS BRYOZOA.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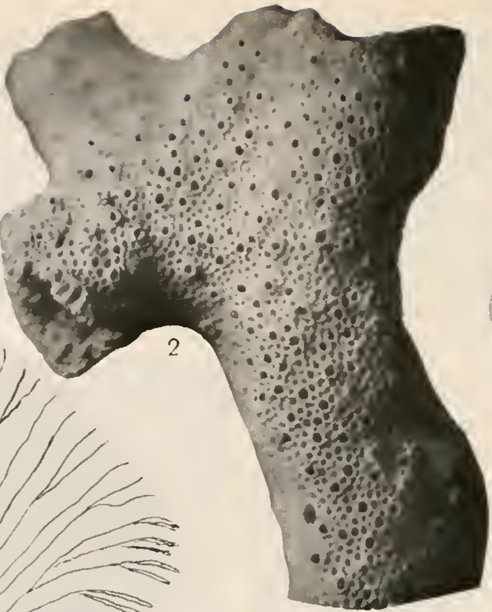
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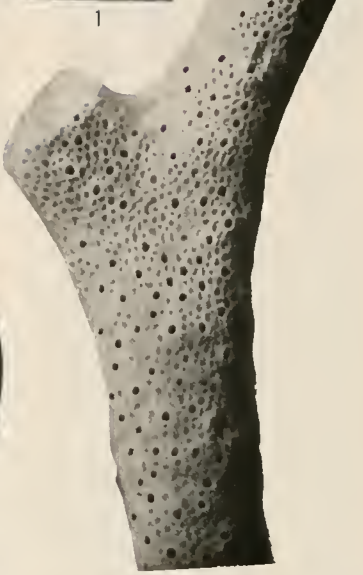
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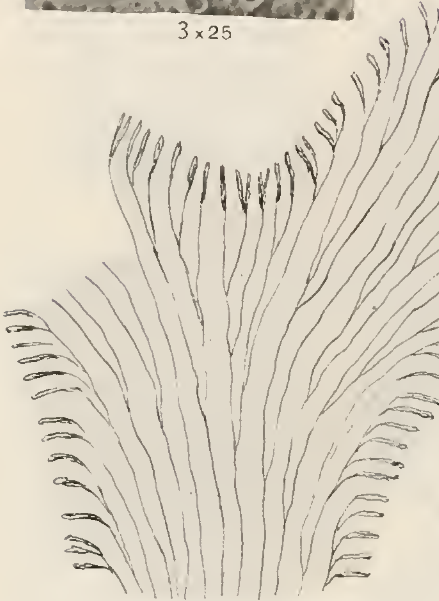
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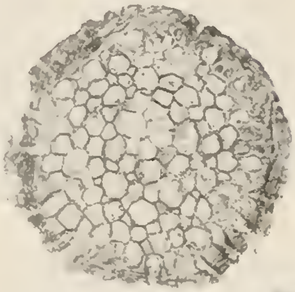
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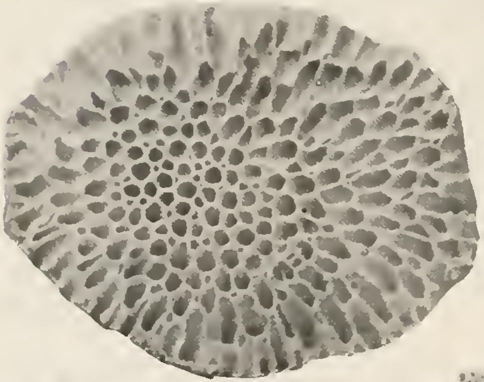
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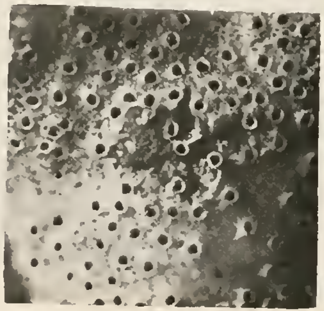
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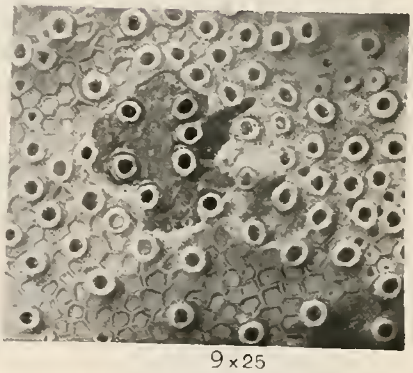
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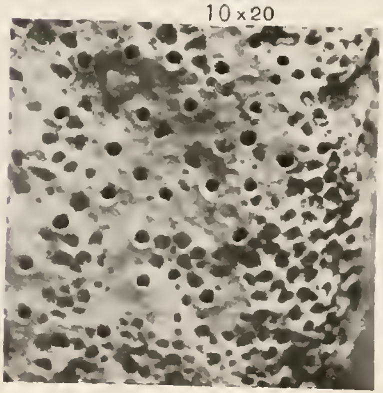
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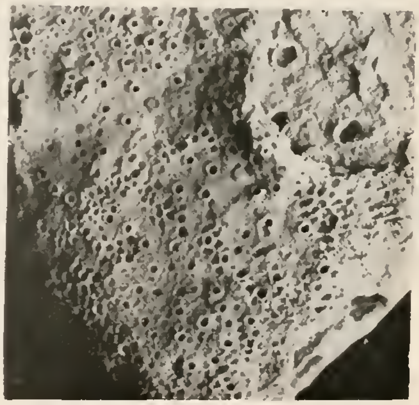
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14

JACKSONIAN CYCLOSTOMATOUS BRYOZOA.

Plate 150.

Figs. 1–6. *Heteropora ovalis*, new species (p. 682).
1. Fragments of the branching zoarium, natural size.
2. A branch, × 12, showing the oval apertures and the numerous mesopores.
3. Portion of figure 2, × 25.
4. Another branch, × 12.
5. Longitudinal thin section, × 25. The mesopores are very short.
6. Transverse thin section, × 25.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65371, U.S.N.M.

Figs. 7–10. *Tretocycloecia grandis*, new species (p. 827).
7. Fragment of the cylindrical branched zoarium, natural size.
8. Surface, × 12.
9. Surface, × 25, showing the broken ovicell.
10. Transverse section, × 20.

Lower Jacksonian (Moodys marl): Jackson, Mississippi.
Cat. No. 65372, U.S.N.M.

Figs. 11–14. *Partretocycloecia reptans*, new species (p. 831).
11. The incrusting zoarium, natural size.
12. Surface, × 12.
13. A portion of figure 12, × 25.
14. Ovicelled portion of the same specimen, × 12.

Middle Jacksonian: Near Lenuds Ferry, South Carolina.
Cat. No. 65373, U.S.N.M.

PLATE 151.

FIGS. 1–6. *Partretocycloccia porosa*, new species (p. 831).

1. Surface of the massive zoarium, × 12, showing the ovicell. The broken upper wall permits a view of the interior.
2. Surface, × 12, showing the elliptical form of the orifices and the polygonal shape of the mesopores.
3. Same zoarium as figure 2, × 25.
4. Transverse thin section, × 50.
5. Tangential thin section, × 50.
6. Longitudinal thin section, × 50.

Middle Jacksonian: Eutaw Springs, South Carolina.
Cat. No. 65368, U.S.N.M.

FIGS. 7–10. *Ceriopora ? proposita*, new species (p. 679).

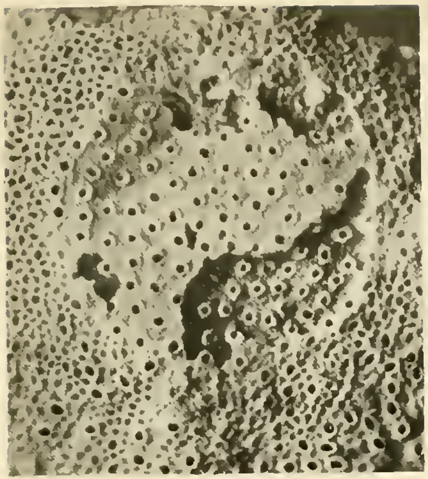
7. View of the zoarium, natural size, showing the expanded irregular form.
8. Surface, × 25, illustrating the polygonal orifices.
9. Transverse thin section, × 12.
10. Longitudinal thin section, × 12, consisting of two superposed layers separated by a line of large vesicles.

Middle Jacksonian: Three and a quarter miles south of Perry, Georgia.
Cat. No. 65369, U.S.N.M.

FIGS. 11–17. *Ceriopora aldrichi*, new species (p. 679).

11. The small cylindrical zoarium, natural size.
12. The same specimen, × 12.
13. A zoarium, × 12, attached to a bryozoan and growing into a solid stem.
14. Transverse thin section, × 25.
15. Transverse section, × 20, of a solid branch.
16. Surface of specimen (fig. 12), × 25.
17. Longitudinal thin section, × 25.

Middle Jacksonian (Castle Hayne limestone); Wilmington, North Carolina.
Cat. No. 65370, U.S.N.M.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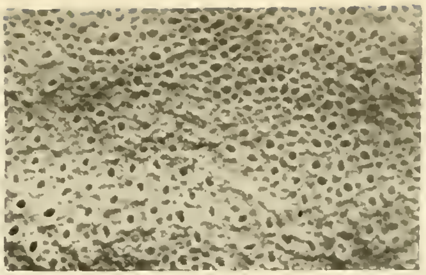
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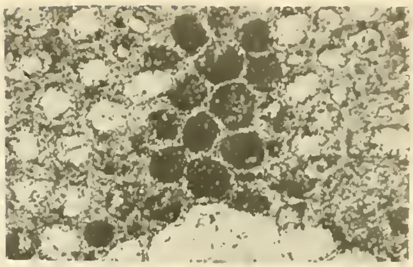
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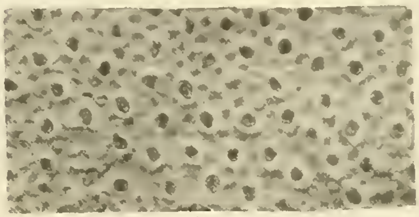
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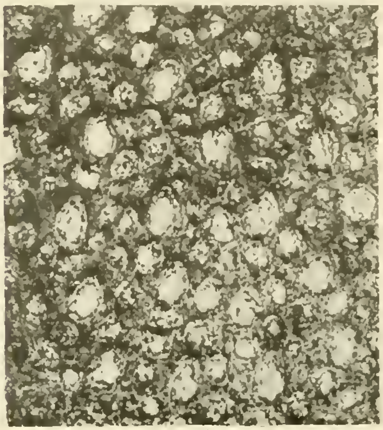
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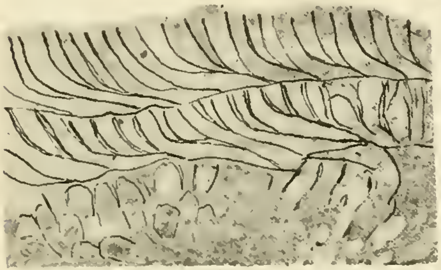
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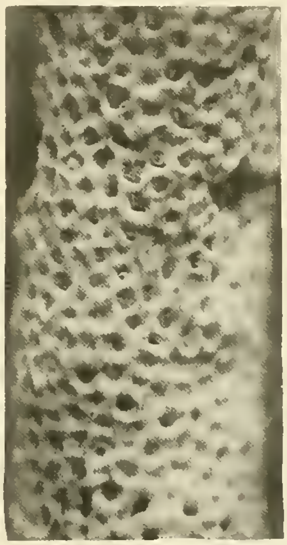
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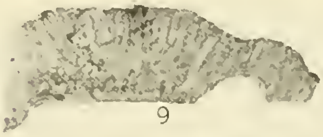
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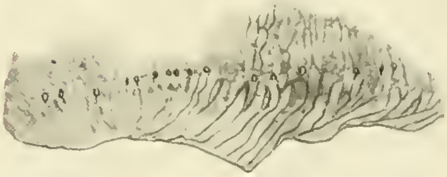
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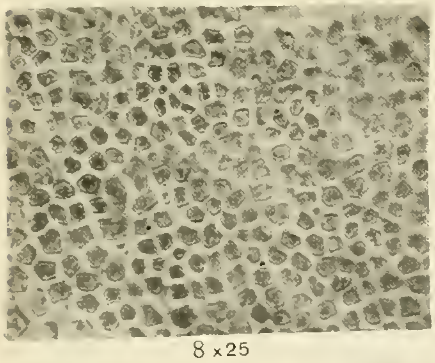
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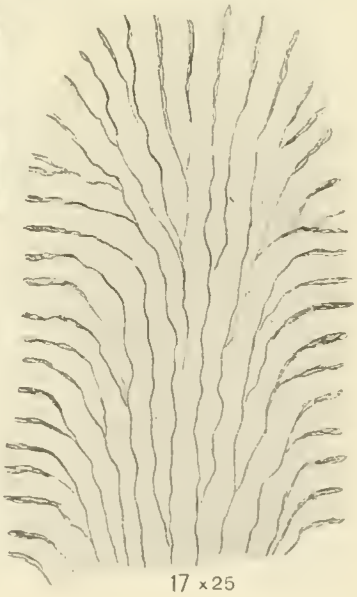
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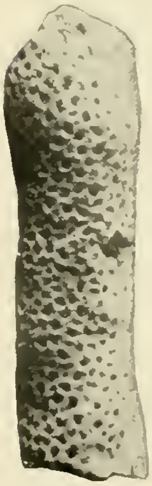
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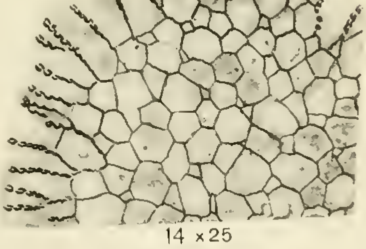
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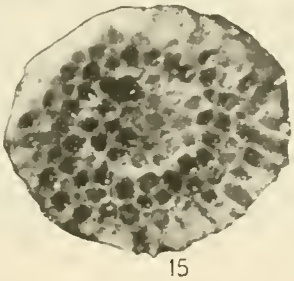
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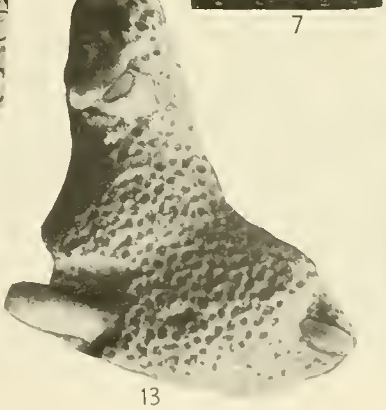
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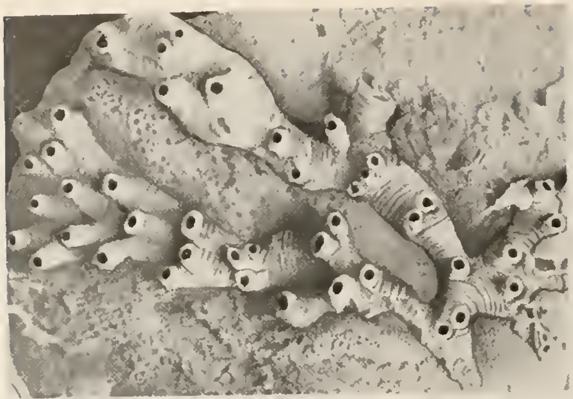
Jacksonian Cyclostomatous Bryozoa.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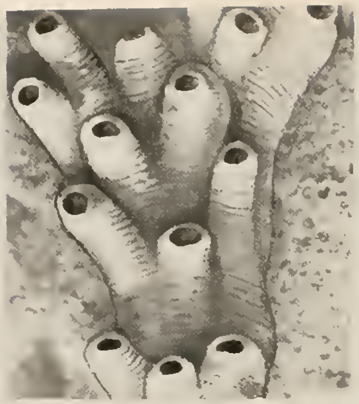
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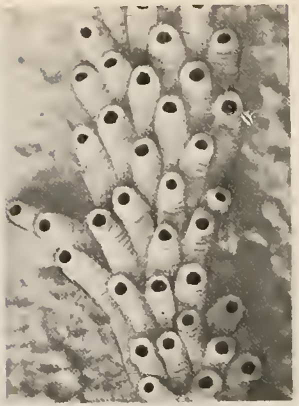
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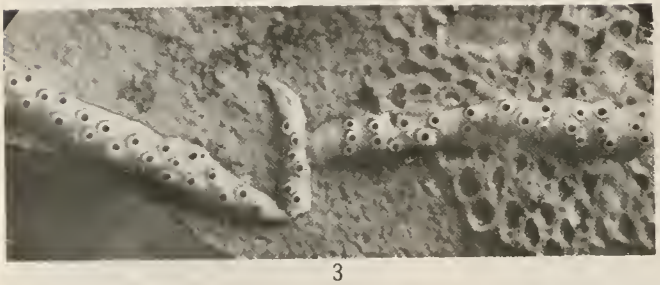
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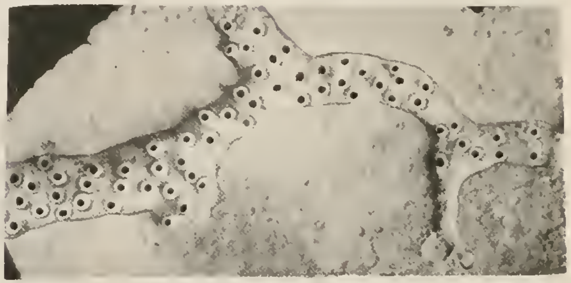
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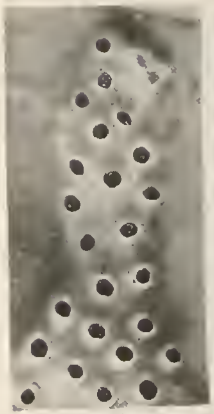
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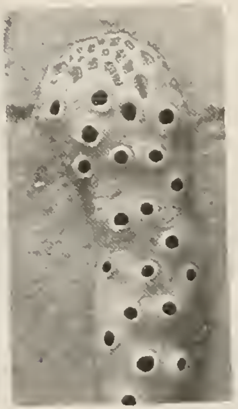
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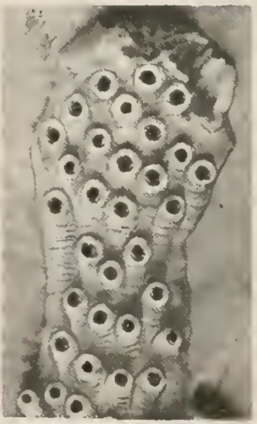
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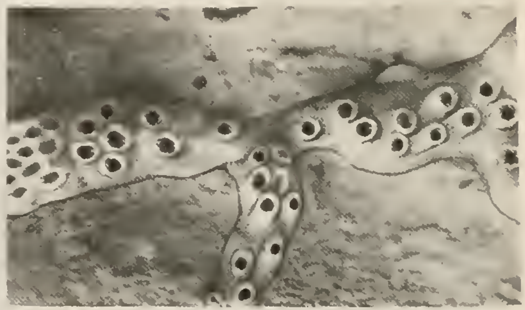
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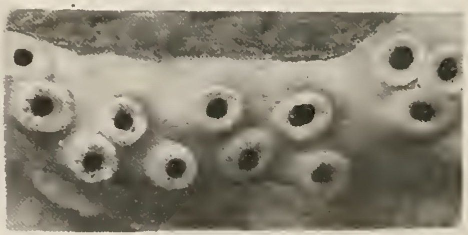
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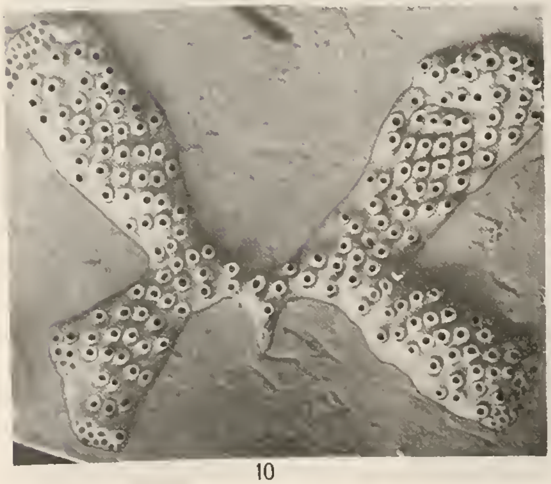
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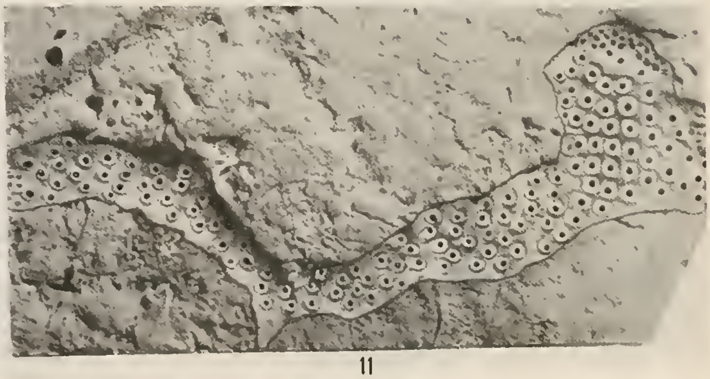
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VICKSBURGIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 152.

FIGS. 1, 2. *Proboscina subechinata*, new species (p. 665).
1. The incrusting type-specimen, × 12.
2. Portion of the same, × 25.
Vicksburgian (Marianna limestone): Claiborne, Monroe County, Alabama.
Cat. No. 65375, U.S.N.M.

FIGS. 3–7. *Proboscina rectalinea*, new species (p. 666).
3. An unsymmetrical zoarium, × 12. The zooecia are arranged in transverse rows on the branch to the right and in quincunx to the left. The branches are linear.
4. Another zoarium, × 12, with the two first branches not linear. A very small protoecium is developed.
5. Portion of a multiserial zoarium, × 25.
6. Zooecia with the peristomes arranged in transverse irregular rows. × 25.
7. Another portion of the same zoarium, × 25, with the peristome arranged in quincunx.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65376, U.S.N.M.

FIGS. 8, 9. *Proboscina cranei*, new species (p. 668).
8. An example, × 12, illustrating the large although short triserial branches.
9. Part of the same specimen, × 25, exhibiting the thick peristomes.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65377, U.S.N.M.

FIGS. 10–12. *Proboscina conveniens*, new species (p. 666).
10. Symmetrical zoarium with wide, symmetrically arranged branches, × 12. The protoecium is probably very minute.
11. Another zoarium, × 12, showing club-shaped branches.
12. Portion of a branch, × 25, illustrating the thickness of the peristomes.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65378, U.S.N.M.

PLATE 153.

FIGS. 1, 2. *Proboscina clavatiramosa*, new species (p. 667).

1. A zoarium, × 12, showing the characteristic club-shaped branches unsymmetrically arranged.
2. One of the branches, × 25. The peristomes are salient but the tubes are scarcely distinct.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

Cat. No. 65379, U.S.N.M.

FIGS. 3, 4. *Diastopora magnipora*, new species (p. 674).

3. The unilamellar, flabellate zoarium, × 12.
4. Portion, × 25. The large tubes and thick peristomes are evident.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

Cat. No. 65380, U.S.N.M.

FIGS. 5–8. *Diaperoecia rugosa*, new species (p. 743).

5. Complete example of the incrusting zoarium with its bilamellar expansions, × 5.
6. Portion of the same specimen, × 12. One of the bilamellar expansions, broken, is seen at the upper left-hand corner.
7. A further enlargement, × 25, illustrating the transverse wrinkles.
8. Portion with the ovicell, × 12. The ovicell is wrinkled like the tubes.

Vicksburgian: Three miles southeast of Vosburg, Jasper County, Mississippi.

Cat. No. 65381, U.S.N.M.

FIGS. 9–15. *Diaperoecia orbiculata*, new species (p. 744).

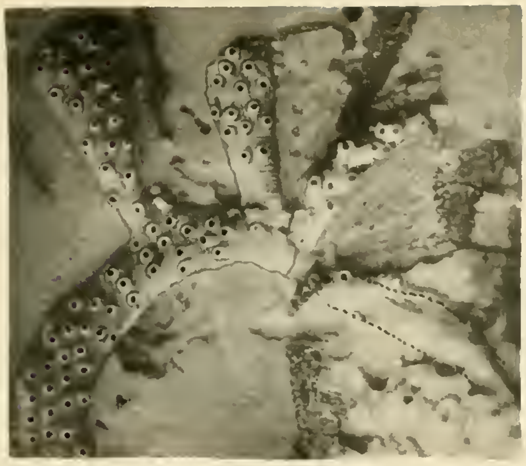
9. Specimens of the free orbicular zoarium, natural size.
10. Specimen with a smooth, unusual ovicell, × 12.

11, 12. Two fragments, × 12, showing the ovicell developed at different places on the zoarium.

13. Zoarium folded around an alga, × 12.
14. Lower face of zoarium, × 12, showing the concentric wrinkles of the basal lamella.
15. The tubes, × 25, showing arrangement in quincunx.

Vicksburgian: One mile north of Monroeville, Alabama.

Cat. No. 65382, U.S.N.M.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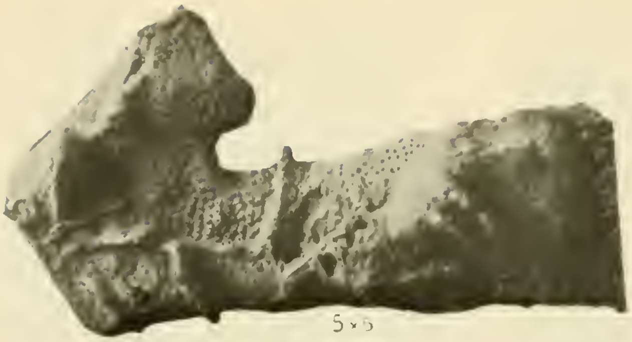
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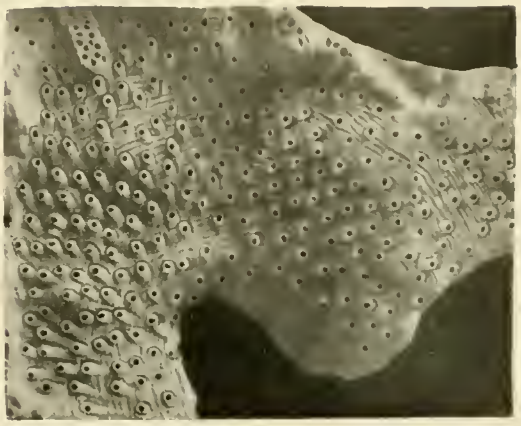
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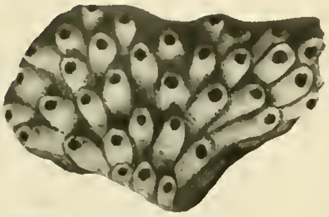
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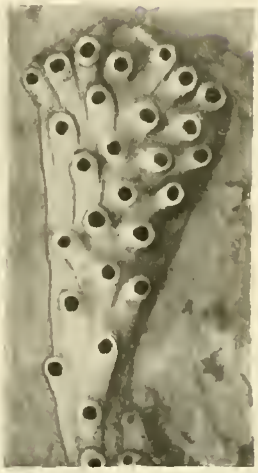
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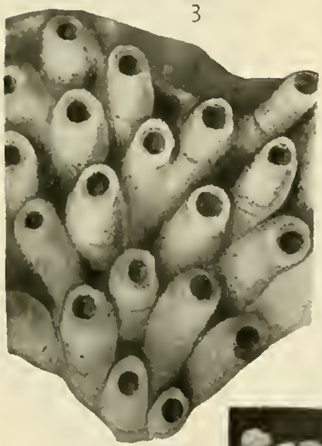
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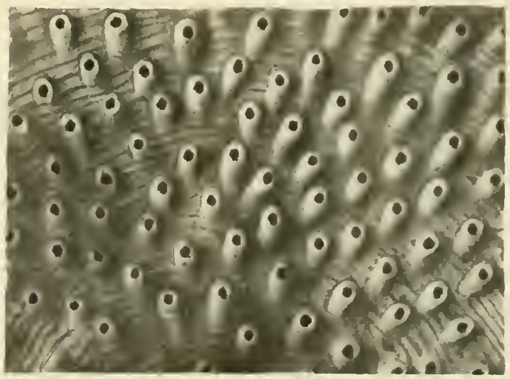
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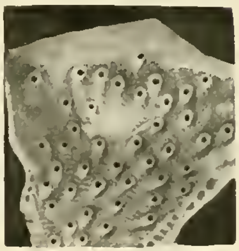
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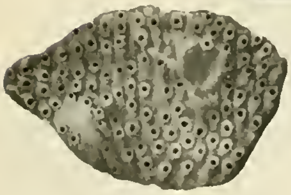
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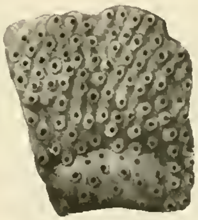
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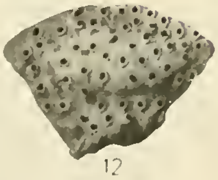
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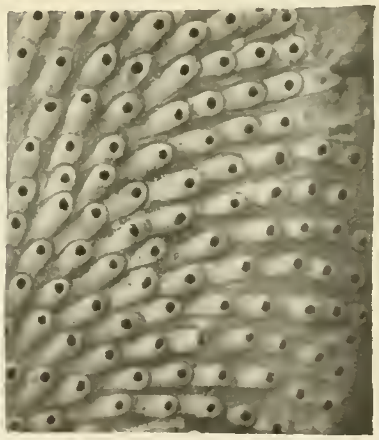
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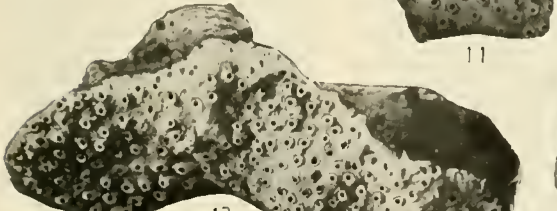
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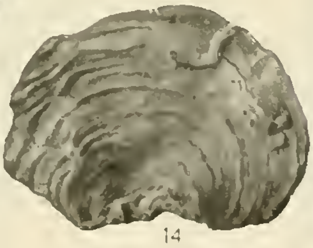
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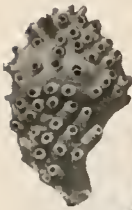
Vicksburgian Cyclostomatous Bryozoa.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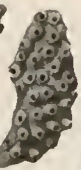
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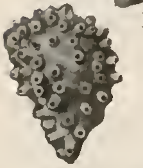
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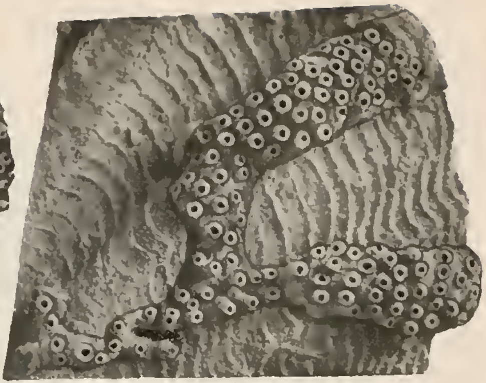
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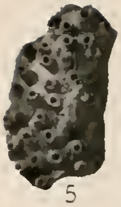
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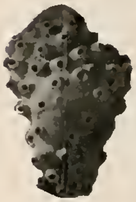
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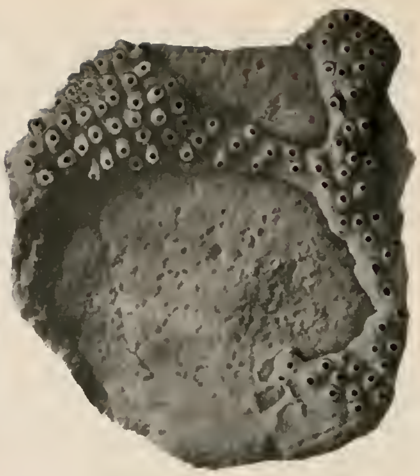
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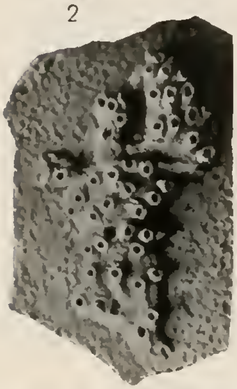
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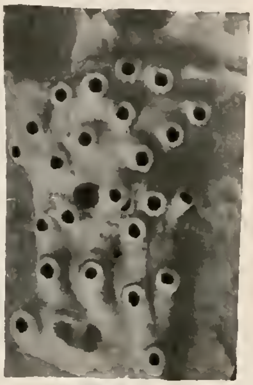
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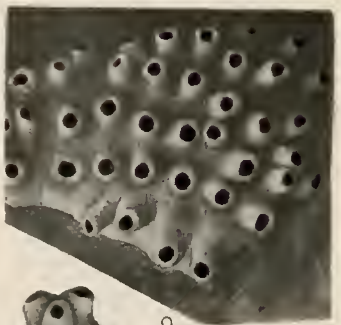
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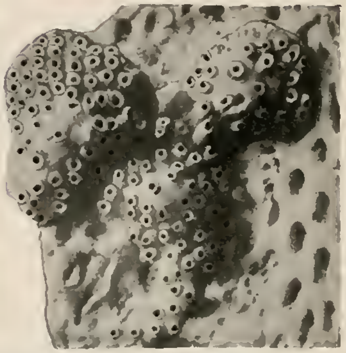
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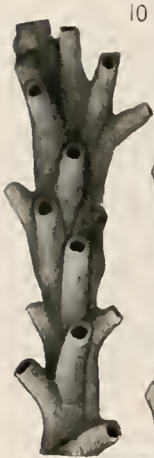
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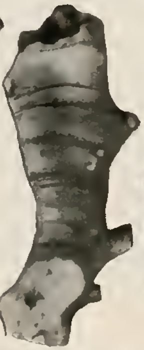
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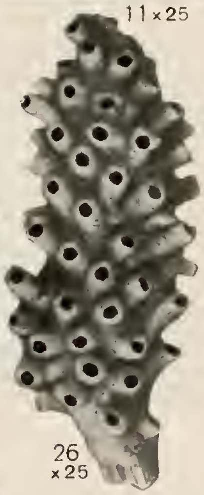
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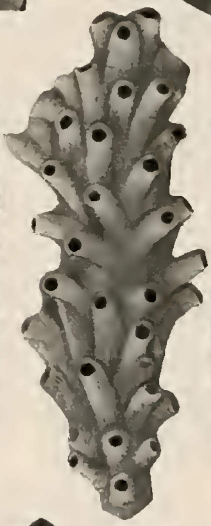
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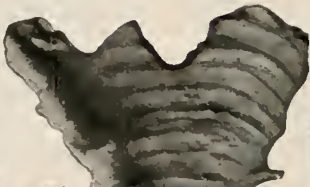
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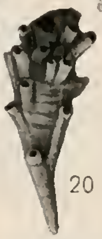
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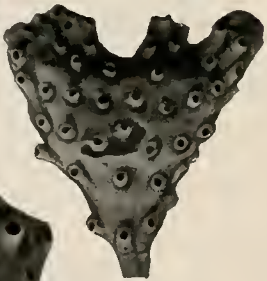
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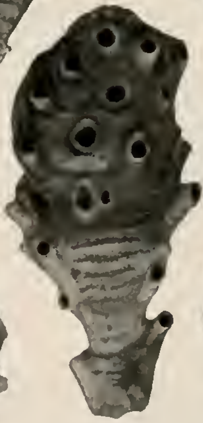
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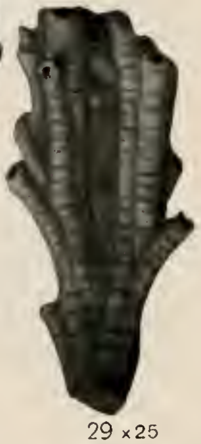
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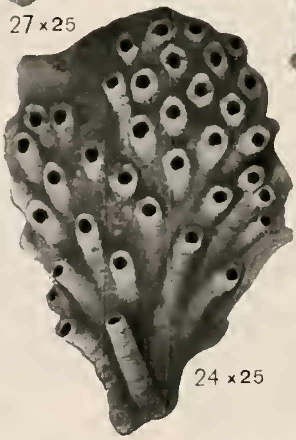
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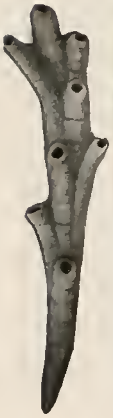
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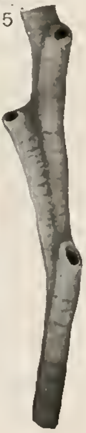
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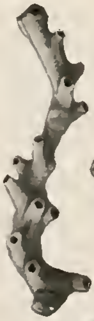
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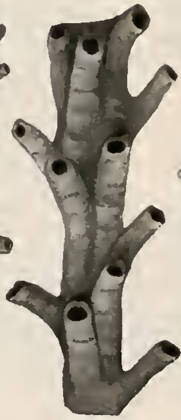
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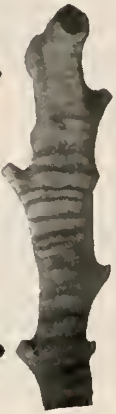

16 ×25

VICKSBURGIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 154.

FIGS. 1–9. *Diaperoccia clara*, new species (p. 744).

1–3. Unilamellar zoaria, × 12, creeping over algae.

4. Zoarium, × 12, incrusting a shell. The more elongated branches are less claviform. The ancestrula is visible.

Vicksburgian: West bank Conecuh River, Escambia County, Alabama.

Cat. No. 65383, U.S.N.M.

5, 6. Unilamellar zoaria growing around algae, × 12.

7. Zoarium, × 12, incrusting an Orbitoid foraminifer.

8. Ovicelled zoarium incrusting a bryozoan, × 12.

9. Branch of the same specimen, × 25.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.

Cat. No. 65384, U.S.N.M.

FIGS. 10, 11. *Diaperoccia walcotti*, new species (p. 745).

The incrusting zoarium, × 12, and a portion, × 25, showing an ovicell in the center with the oeciostome adjacent to a normal tube.

Vicksburgian: West bank Conecuh River, Escambia County, Alabama.

Cat. No. 65385, U.S.N.M.

FIGS. 12–20. *Crisulipora prominens*, new species (p. 749).

12. Segments of the zoarium, natural size.

13, 15. Two normal triserial segments, × 25.

14, 16. Wrinkled dorsal face of two normal segments, × 25.

17, 18. Two segments from the basal part of the zoarium, × 25.

19. Another segment, × 12.

20. Ovicelled segment, × 12, with the oeciostome tube smaller than the ordinary ones.

Vicksburgian: One mile north of Monroeville (figs. 13, 14, 16, 20), and west bank Conecuh River, Escambia County, Alabama (figs. 15, 17, 18, 19).

Cat. Nos. 65386, 65387, U.S.N.M.

FIGS. 21–24. *Crisulipora flabellata*, new species (p. 750).

21. Segment, natural size.

22. Posterior face of a bifurcated segment, × 12.

23. Celluliferous side of the same segment, × 12, showing ovicell.

24. Another segment, × 25.

Vicksburgian: One mile north of Monroeville, Alabama, and Murder Creek, east of Castlebury, Alabama (fig. 24).

Cat. No. 65483, 65388, U.S.N.M.

FIGS. 25–29. *Crisulipora rugosodorsalis*, new species (p. 749).

25. Two segments, natural size.

26. Segment, × 25, with the peristomie little developed.

27. Segment, × 25, with long peristomie.

28. Ovicelled segment, × 25. The oeciostome is the smaller tube next one of ordinary size.

29. Posterior or dorsal face, × 25, ornamented with large transverse wrinkles.

Vicksburgian: One mile north of Monroeville (fig. 27), and west bank Conecuh River, Escambia County, Alabama (figs. 25, 26, 28, 29).

Cat. No. 65389, 65390, U.S.N.M.

Plate 155.

Figs. 1–6. *Desmeplagioecia tenuis* Reuss, 1869 (p. 721).

1. The free discoidal zoarium, natural size.

2, 3. Cellular or anterior side of two zoaria, × 6.

4. Posterior side, × 6.

5. A large ovicelled zoarium, × 6.

6. Surface of a zoarium, × 25.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65459, U.S.N.M.

Figs. 7–11. *Crisulipora grandipora*, new species (p. 750).

7. Basal segments of the species, natural size.

8. Posterior face, × 25.

9. Anterior face, × 25.

10. Longitudinal thin section showing the great length of the tubes, × 12.

11. Longitudinal thin section showing the growth of a new tube, × 12.

Vicksburgian (Marianna limestone): West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65460, U.S.N.M.

Figs. 12–17. *Plagioecia discoidea*, new species (p. 717).

12. The free orbicular zoarium, natural size.

13, 14. Anterior face of a large and a small zoarium, × 12.

15. Lower face showing the concentric wrinkles of the basal lamella, × 12.

16. View of the basal lamella after ablation, showing the lozenge-shaped areas formed by the horizontal projection of the tubes in juxtaposition, × 25.

17. Median thin section, × 25.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65461, U.S.N.M.

Figs. 18–22. *Mecynoecia compressa*, new species (p. 729).

18. The flattened zoarial branches, natural size.

19, 20. Lamellar specimen emitting a cylindrical branch, × 12, and a portion, × 25.

21. Lamellar specimen irregularly branched and subcylindrical at the base, × 12 .

22. Ovicelled example, × 12, with the oeciostome little salient.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65462, U.S.N.M.

Figs. 23–29. *Mecynoecia elongatotuba*, new species (p. 732).

23. The small bifurcated branches, natural size.

24. A claviform fragment showing the curious mode of branching, × 12.

25, 26. A slender, long branch with striated tubes, × 25 and × 12.

27, 28. The most frequent aspect of the species, × 25 and × 12.

29. A claviform branching fragment, × 12.

Vicksburgian (Red Bluff clay): Seven and one-half miles southwest of Bladon Springs, Alabama.
Cat. No. 65463, U.S.N.M.

Figs. 30–36. *Mecynoecia cornuta*, new species (p. 733).

30. The cylindrical bifurcated branches, natural size.

31. Normal bifurcated specimen, × 12, showing the club-shaped tubes.

32. Fragment, × 12, exhibiting the elongate ovicell.

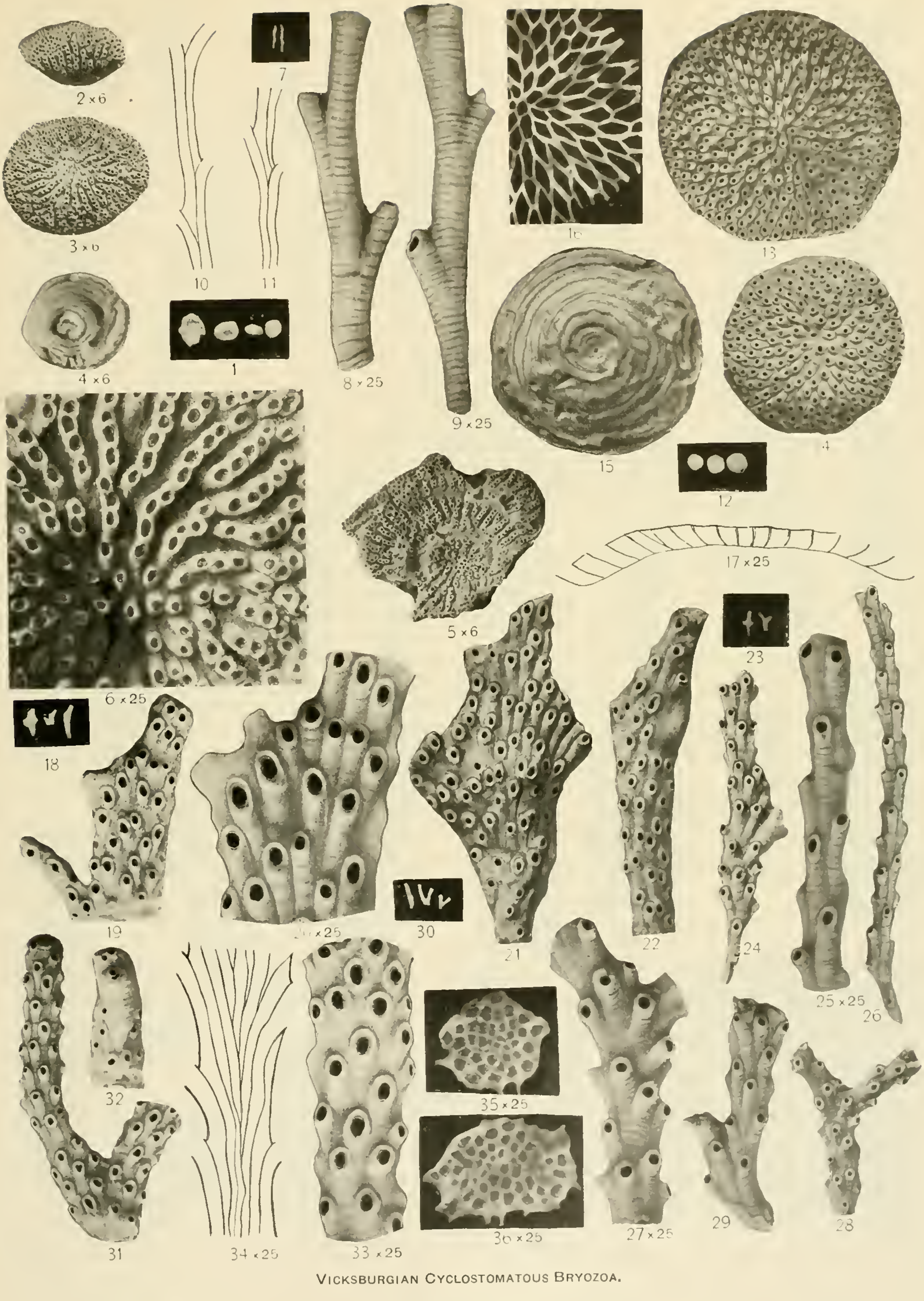
33. Surface of branch, × 25.

34. Longitudinal thin section, × 25.

35. Transverse section through a branch, × 25.

36. Transverse section taken just before a bifurcation, × 25.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65464, U.S.N.M.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Vicksburgian Cyclostomatous Bryozoa.

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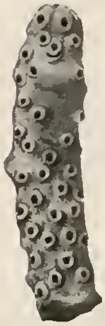
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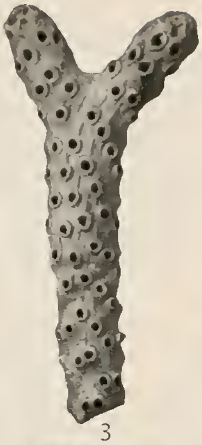
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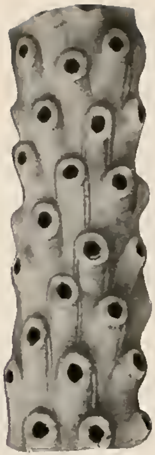
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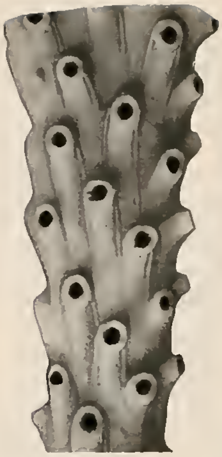
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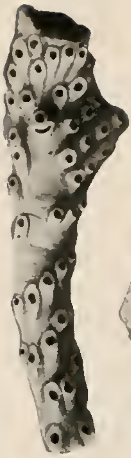
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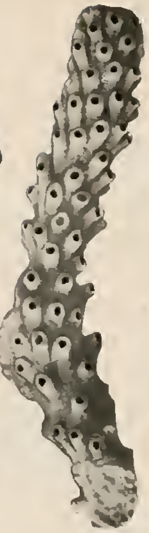
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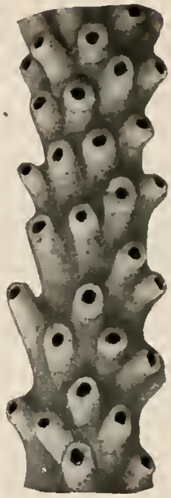
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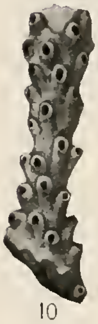
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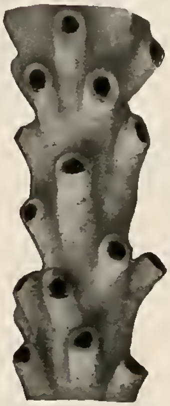
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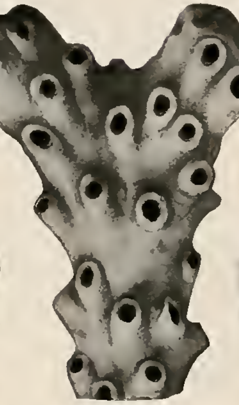
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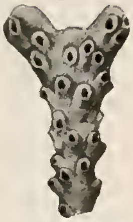
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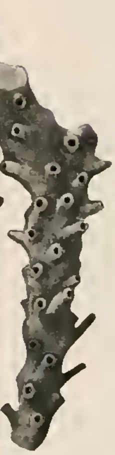
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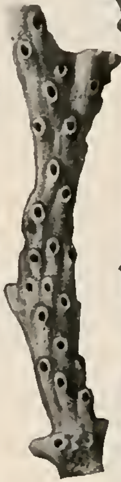
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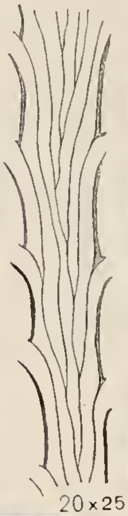
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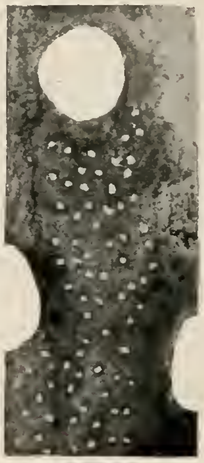
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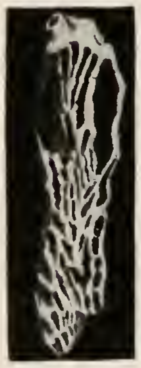
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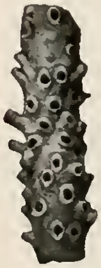
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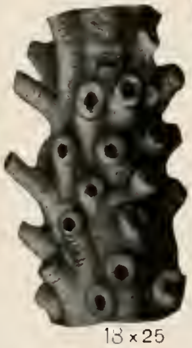
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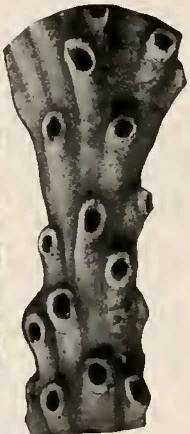
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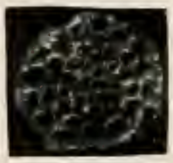
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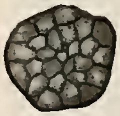
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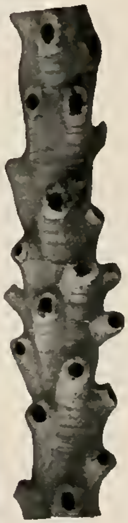
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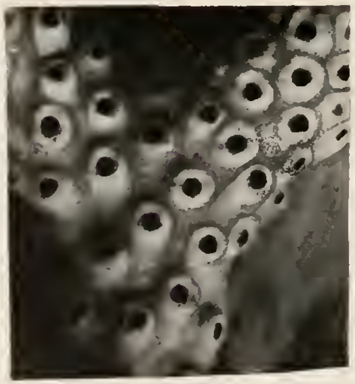
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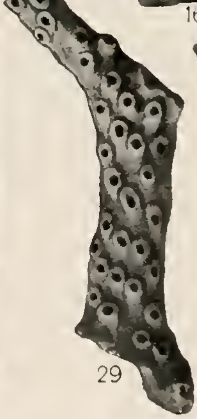
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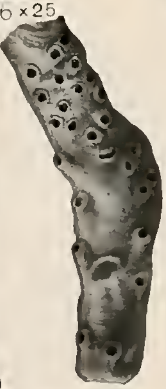
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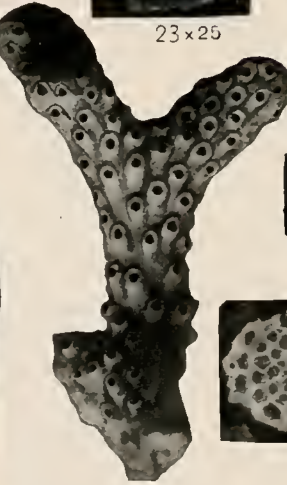
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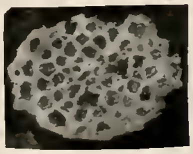

25 × 25

Vicksburgian Cyclostomatous Bryozoa.

PLATE 156.

FIGS. 1–8. *Mecynoecia lunata*, new species (p. 730).

1. Fragments of the solid, cylindrical zoarium, natural size.
2. Branch with ovicell, × 12. The oeciostome is in the form of a lunar crescent.
3. Branch with ordinary tubes, × 12; they are bordered by a salient thread. The zone of growth is visible.

4, 5. Ordinary tubes bordered by a salient thread. × 25.
Vicksburgian: West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65391, U.S.N.M.

6. Slender ovicelled branch, × 12.
Vicksburgian: Murder Creek, east of Castlebury, Conecuh County, Alabama.
Cat. No. 65392, U.S.N.M.

7, 8. Young tubes not bordered by a thread, × 12 and × 25. The base is discoidal.
Vicksburgian: Near Claiborne, Monroe County, Alabama.
Cat. No. 65393, U.S.N.M.

FIGS. 9–25. *Mecynoecia semota*, new species (p. 731).

9. Fragments, natural size.

10, 11. Specimen with salient peristome, × 12 and × 25. The distance between the peristomes is quite variable.

12, 13. Branch, × 12 and × 25. The zone of growth is very small. The tubes are striated transversely.

14. Specimen with long, very salient peristomie, × 12.
Vicksburgian: West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65394, U.S.N.M.

15, 16. Branch, × 12 and × 25 with separation of the peristomes less developed.

17, 18. Fragment, × 12 and × 25, with long peristomie.

19. Fragment, × 12, in a portion of which the distance between the peristomes is smaller.
20. Longitudinal section, × 25.
21. Tangential section, × 100, showing the usual structure of the zooecial walls.
22. Longitudinal section through an ovicell, × 12.
23. Transverse section somewhat above a bifurcation, × 25.
24. Transverse section in a more slender branch, × 25.
25. Normal transverse section, × 25.

Vicksburgian: One mile north of Monroeville, Alabama.
Cat. No. 65395, U.S.N.M.

FIGS. 26–30. *Mecynoecia quisenberryae*, new species (p. 730).

26. Zoarial fragments, natural size.
27. Specimen, × 12, with peristomes arranged in oblique verticells.
28. Branch with ovicell, × 12.

29, 30. Fragment, × 25 and × 12, showing peristomes in quincunx.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65396, U.S.N.M.

Plate 157.

Figs. 1, 2. *Mecynoecia lobata*, new species (p. 734).
1. The incrusting *Proboscina* zoarium, × 12, with ovicelled lobes.
2. Enlarged portion of the same zoarium, × 25. The oeciostome is broken.
Vicksburgian: Near Claiborne, Monroe County, Alabama.
Cat. No. 65397, U.S.N.M.

Figs. 3, 4. *Mecynoecia globula*, new species (p. 734).
3. The incrusting zoarium, × 12, showing the globular ovicell.
4. Portion of a zoarium, × 25.
Vicksburgian: One mile north of Monroeville, Alabama.
Cat. No. 65398, U.S.N.M.

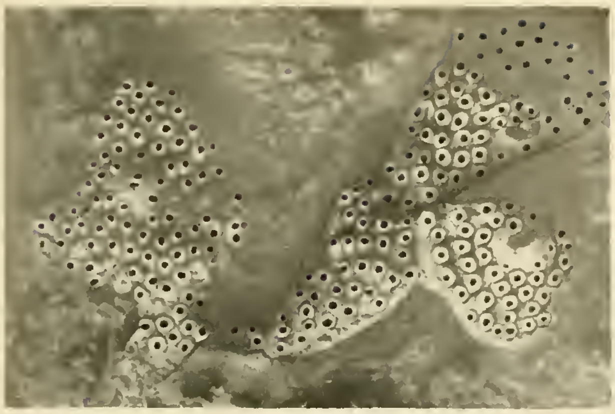
Figs. 5–8. *Microecia hirta*, new species (p. 736).
5. Fragments of the free unilamellar zoarium, natural size.
6, 7. The same specimens, × 12.
8. The fragment shown in figure 7, × 25, exhibiting the small ovicell.
Vicksburgian; West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65399, U.S.N.M.

Figs. 9–16. *Oncousoecia quinquescriata*, new species (p. 692).
9. The small bifurcated branches, natural size.
10, 11. Normal ovicelled branch, × 12 and × 25. The fifth longitudinal row of zooecia is rarely visible on photographs because of the convexity of the branch.
12. Dorsal of branch, × 12, with the longitudinal tubes visible.
13. Bifurcated example, × 12, with dissimilar branches.
14. A normal branch, × 25.
Vicksburgian: One mile north of Monroeville, Alabama.
Cat. No. 65400, U.S.N.M.
15. Young branch, × 12.
16. Dorsal of branch, × 12, with transverse striations.
Vicksburgian: West bank of Conecuh River, Escambia County, Alabama.
Cat. No. 65401, U.S.N.M.

Figs. 17–24. *Oncousoecia varians* Reuss, 1869 (p. 690).
17. Zoarial fragments, natural size.
18, 19. Branch with long peristomes, × 12 and × 25.
20. Dorsal of branch, × 12, much wrinkled transversely.
21. Branch, × 12, with very short peristome. Some of the tubes are closed by a calcareous lamella.
22. Longitudinal thin section, × 12.
23. Transverse section of an ordinary branch between the peristomes.
24. Transverse section of a branch with very convex dorsal, × 25.
Vicksburgian: West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65402, U.S.N.M.

Figs. 25, 26. *Filisparsa atomicula*, new species (p. 697).
25, 26. Fragment of the minute zoarium, × 12 and × 25.
Vicksburgian: One mile north of Monroeville, Alabama.
Cat. No. 65403, U.S.N.M.

Fig. 27. *Filisparsa biseriata*, new species (p. 702).
The thin rectilinear biserial zoarium, × 25; with indistinct tubes.
Vicksburgian: West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65404, U.S.N.M.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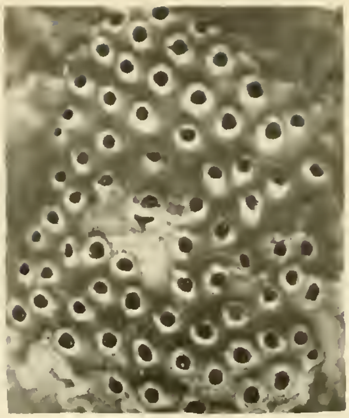
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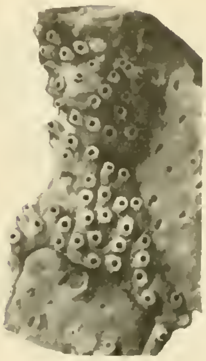
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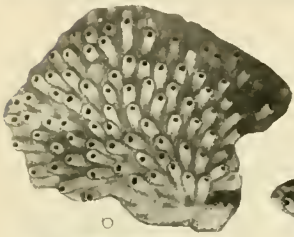
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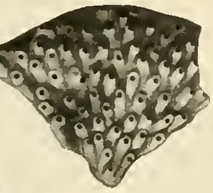
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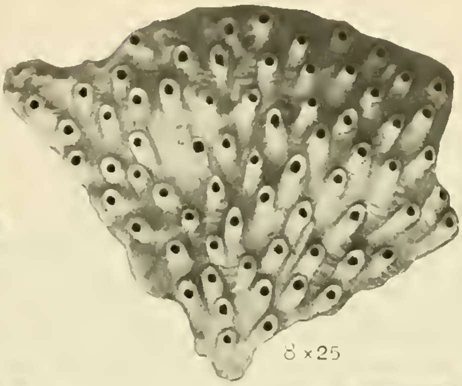
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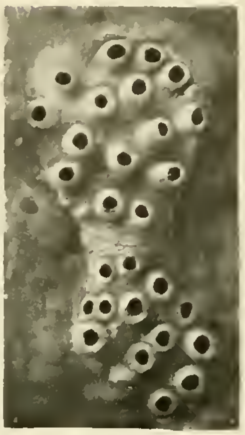
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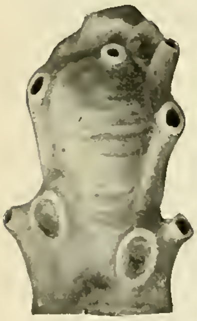
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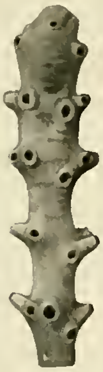
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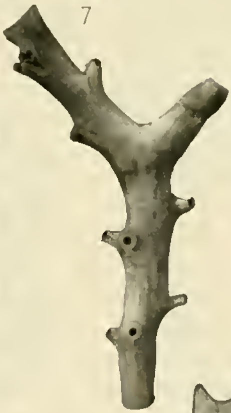
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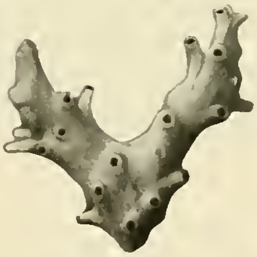
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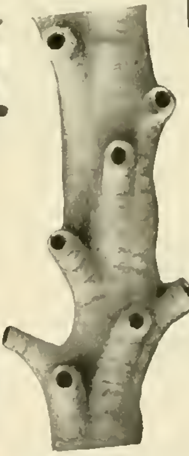
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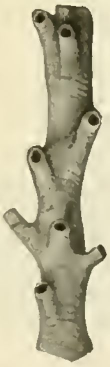
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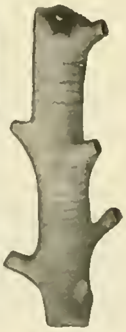
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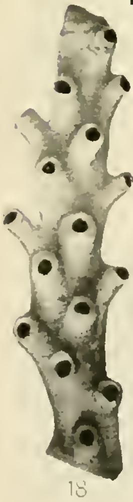
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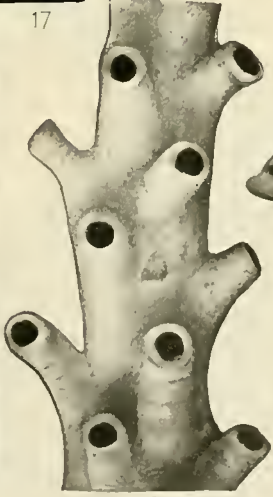
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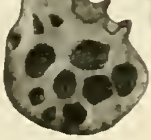
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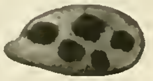
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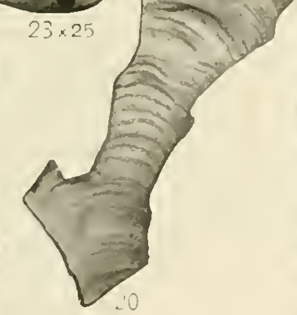
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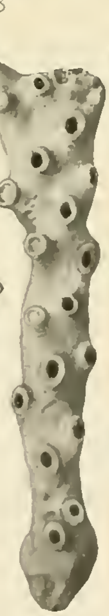
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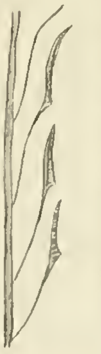
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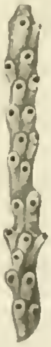
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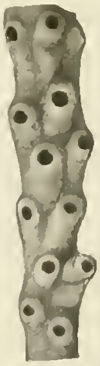
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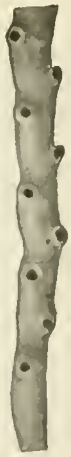
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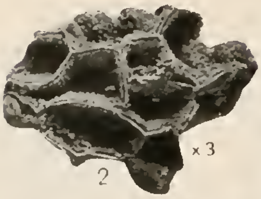
VICKSBURGIAN CYCLOSTOMATOUS BRYOZOA.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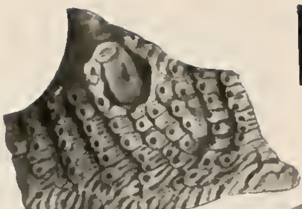
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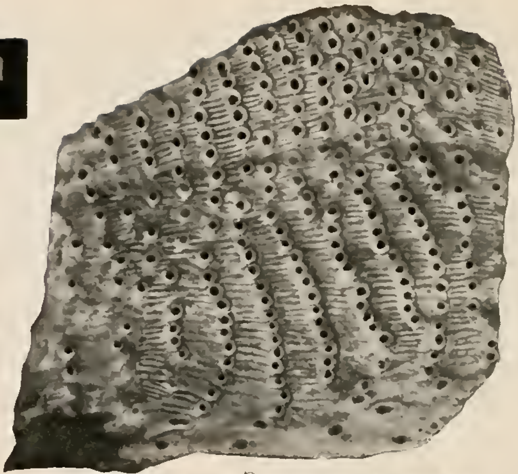
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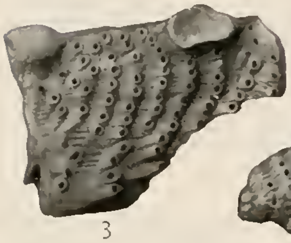
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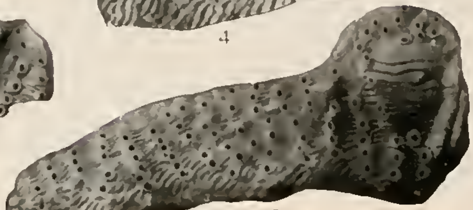
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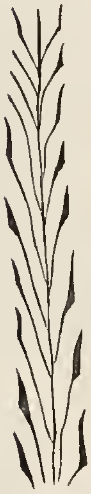
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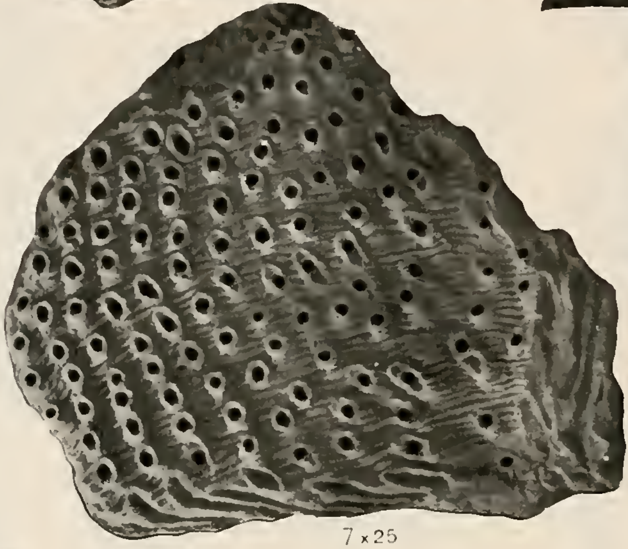
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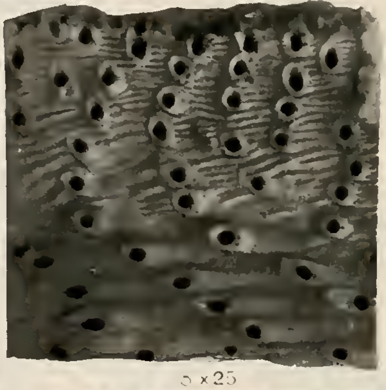
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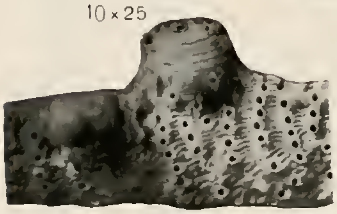
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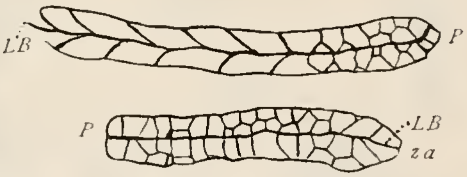

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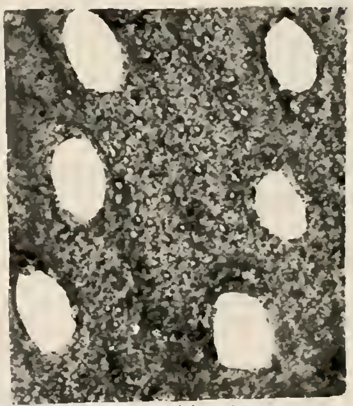
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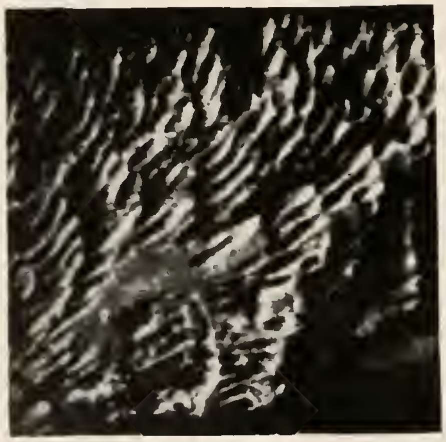
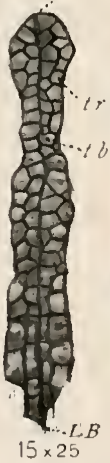
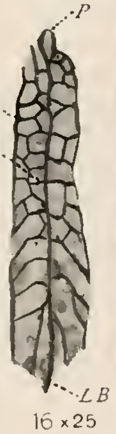
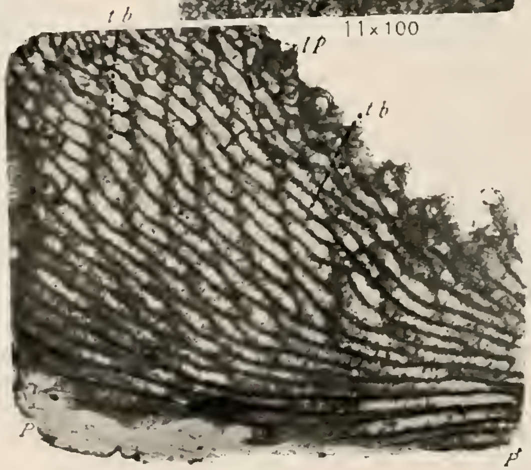

12 × 25



15 × 25



16 × 25



13 × 25

VICKSBURGIAN CYCLOSTOMATOUS BRYOZOA.

PLATE 158.

FIGS. 1–16. *Exochoecia rugosa*, new species (p. 737).

1. Fragments of the zoarium, natural size, as usually found.
2 Upper face of a reticulate and meandriform zoarium, × 3 The small compartments act as traps for diatoms.
3. Zoarium in which the ovicells are not bordered by the zone of growth.
4. Fragment, × 12, showing interior of an ovicell. The adjacent tubes are arrested in their development.
5. Ovicelled frond, × 12. The ovicell is bordered distally by the zone of growth. The oeciostome is smaller than a tube.
6. Frond, × 12, in which the direction of the tubes has changed following a change in the zone of growth.
7. A very rugose frond, × 25. The zone of growth is broken.
8. Fragment, × 25, showing that the tubes begin parallel with the folding but their branches are more and more diverging. The zone of growth is quite visible.
9. Specimen, × 12, with two ovicells. The position of the ovicell on the zone of growth is variable.
10. Longitudinal section across the lines, × 25.
11. Tangential thin section, × 100. The elements are very large, but the structure of the tubes is identical with that of other Cyclostomata.
12. Interior obtained by ablation of a lamella, × 25. The lines of the peristomes are not in the axis of the tubes which support them; the latter (which appear in lozenge-shape) are the branchings of the tubes which are contiguous to the basal lamella.
13. Tangential section of a lamella, × 25.
PP'=fold; *tb*, tubes developed on the basal lamella and continuing almost to the zone of growth. Their branches form the rows which are thus the remains of the lines of peristomes (*l.p.*).
14. Transverse thin section, × 25, perpendicular to the zone of growth and cutting only the tubes arranged on the basal lamella. LB=Basal lamella; P=fold; *zg*, zone of growth.

15, 16. Transverse sections showing the tubes (*tb*) adjacent to the basal lamella (*LB*) and their remifications opening on the zoarial surface and forming the peristomial lines (*tr*).

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65405, U.S.N.M.

PLATE 159.

FIGS. 1–7. *Filisparsa bini*, new species (p. 695).

1. Fragments, natural size.

2, 3. Ramified branch, × 12, and × 25.

4. Normal branch, × 12, showing tubes grouped in pairs.

Vicksburgian: Seven and one-half miles southeast of Bladon Springs, Alabama.

Cat. No. 65406, U.S.N.M.

5, 6. Branch little sinuous, × 12 and × 25. The tubes are grouped in pairs, but the peristomes are not adjacent.

7. Undulated branch, × 12, seen from its posterior or dorsal face.

Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama..

Cat. No. 65407, U.S.N.M.

FIGS. 8–11. *Filisparsa gracilis*, new species (p. 695).

8. Zoarial fragments, natural size.

9, 11. Rectilinear branch, × 12, and a portion, × 25. The angle of bifurcation is very acute.

10. Dorsal surface, × 12.

Vicksburgian (Red Bluff clay): Seven and one-half miles southeast of Bladon Springs, Alabama.

Cat. No. 65408, U.S.N.M.

FIGS. 12–18. *Filisparsa typica* Manzoni, 1877 (p. 696).

12. Fragments, natural size.

13. Branch, × 12, with tubes arranged in quincunx.

14, 15. Branch, × 12 and × 25, in which the tubes are arranged in transverse rows. The peristomes are adjacent by rupture of the peristomie.

16. Posterior side of branch, × 12.

17, 18. Branch, × 12 and × 25, showing tubes arranged in transverse rows: the peristomes are not adjacent on account of the development of the peristomie. The zone of growth (triangular) is visible.

Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, and west bank Conecuh River, Escambia County, Alabama.

Cat. Nos. 65485, 65409, U.S.N.M.

FIGS. 19–28. *Filisparsa simulator*, new species (p. 697).

19. Fragment of the compressed rectilinear branches, natural size.

20, 21. Branch, × 25 and × 12, with tubes arranged in verticells.

22. Another branch, × 12. The tubes are arranged in oblique rows.

23. Posterior or dorsal face, × 25. This is concave below and convex above.

24. Branching fragment, × 12, with tubes arranged in quincunx.

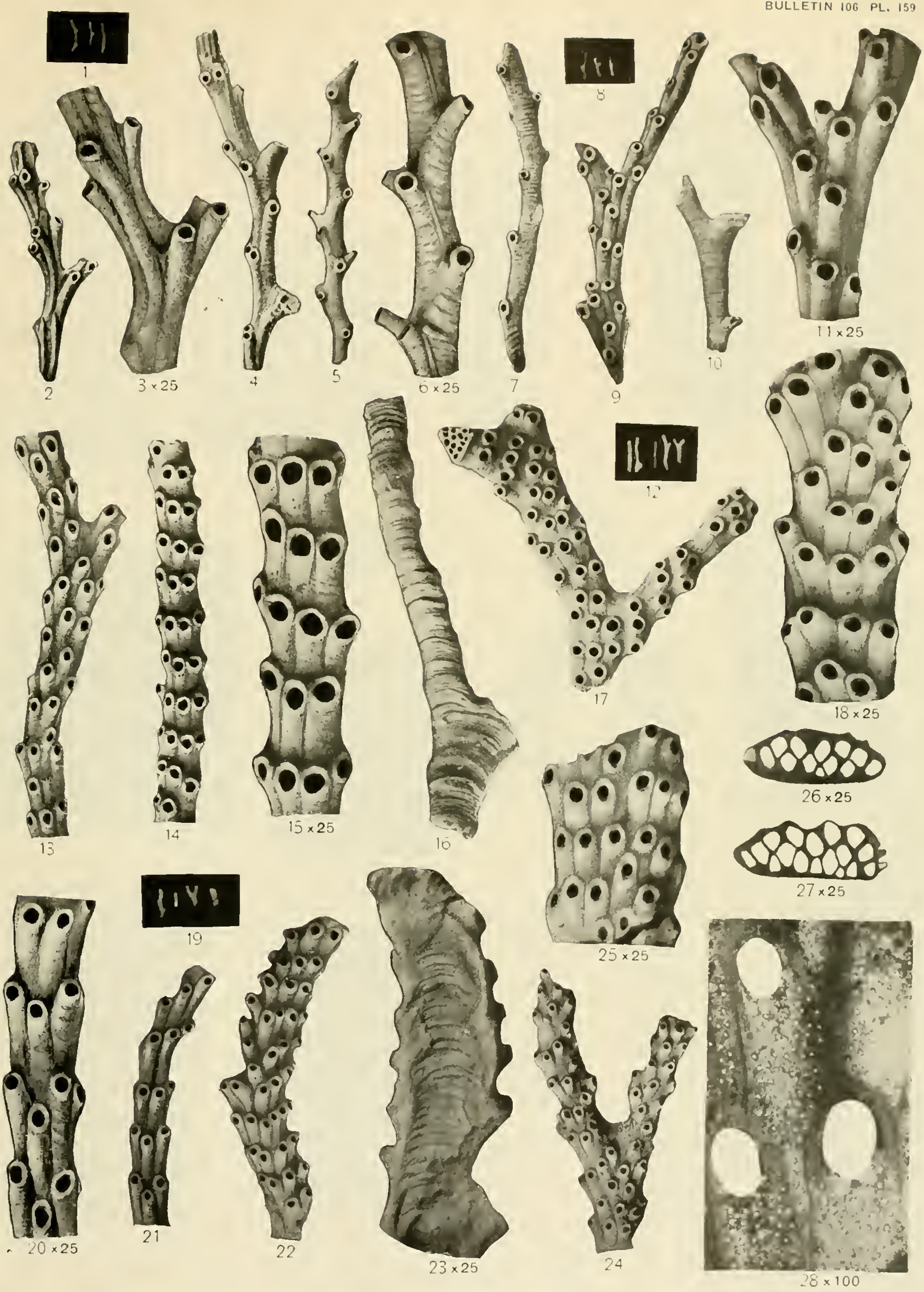
25. Portion of a branch, × 25, with transverse rows of tubes.

26, 27. Normal transverse sections, × 25.

28. Tangential thin section, × 100. The tremopores are very small.

Vicksburgian: One mile north of Monroeville, Alabama.

Cat. No. 65410, U.S.N.M.



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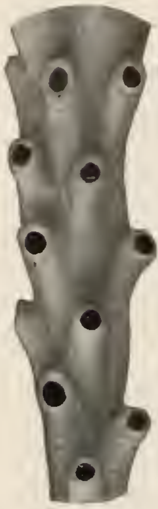
VICKSBURGIAN CYCLOSTOMATOUS BRYOZOA.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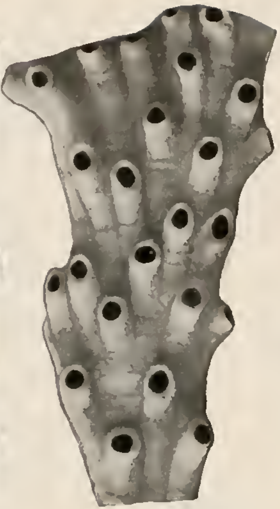
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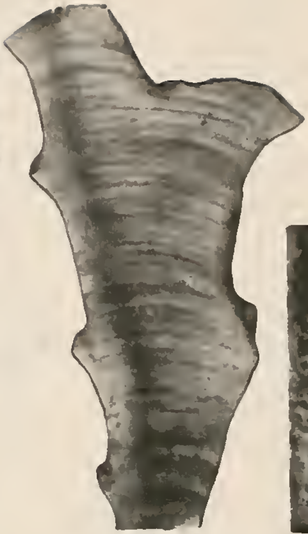
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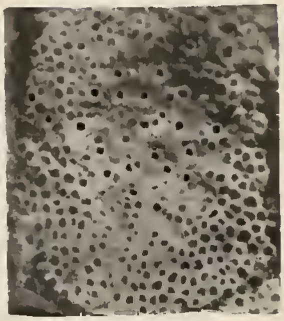
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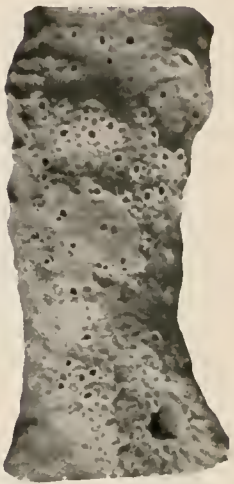
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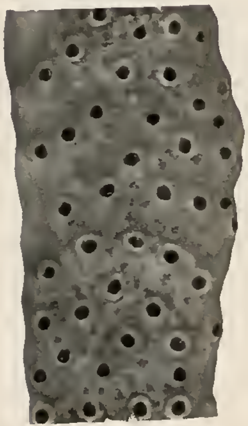
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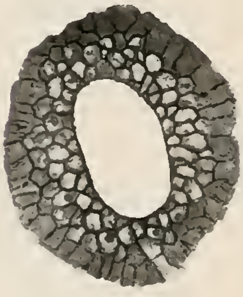
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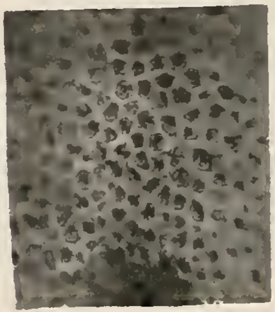
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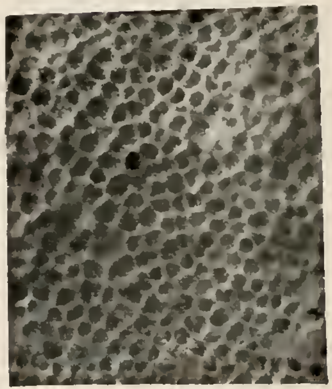
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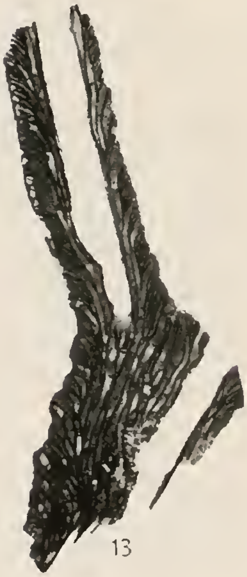
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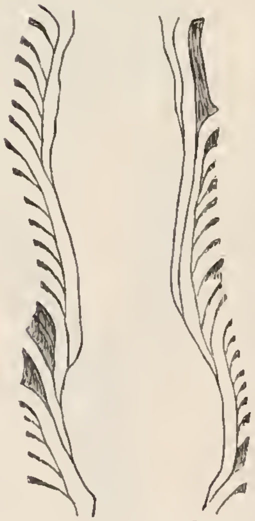
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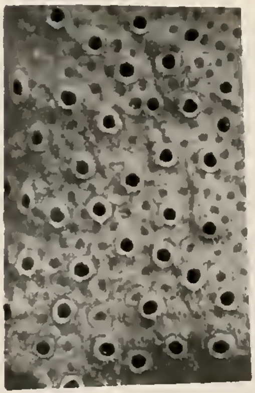
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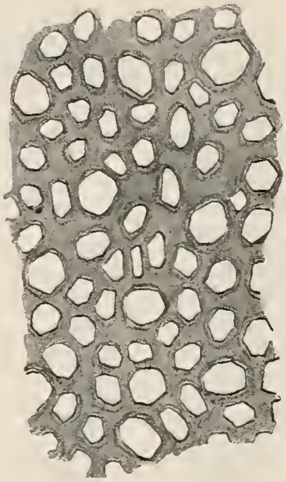
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Vicksburgian Cyclostomatous Bryozoa.

PLATE 160.

FIGS. 1–4. *Filisparsa laxata*, new species (p. 697).
1. Zoarial fragments, natural size.
2. Claviform branch, × 25.
Vicksburgian (Marianna limestone): West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65411, U.S.N.M.
3. Claviform branch, × 25, much enlarged at the bifurcation.
4. Dorsal of the same specimen, × 25.
Vicksburgian (Marianna limestone): Murder Creek, East of Castlebury, Conecuh County, Alabama.
Cat. No. 65412, U.S.N.M.

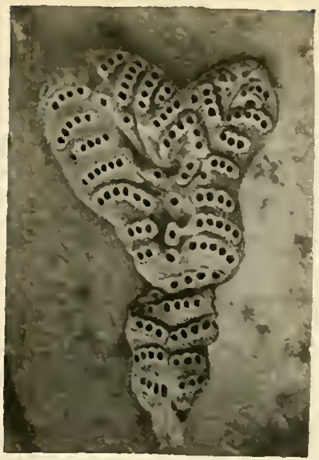
FIGS. 5–16. *Partretocycloecia exilis*, new species (p. 834).
5, 6. Two groups of fragments of the hollow zoarium, natural size.
7. Small ovicelled specimen, × 12. The ovicell is pierced by the tubes accompanied by mesopores.
8. Ovicell of a large specimen, × 12.
9. Surface of a branch, × 25, in which the peristomes are salient, and the mesopores are small.
10. Another branch, × 25, with somewhat larger mesopores.
11. Another branch, × 25. At the bifurcation, there are mesopores only.
12. A superior lamella of a branch with polygonal mesopores, × 25.
13. Longitudinal thin section, × 12, in a specimen alternately hollow and solid. The mesopores are very long at the bifurcations.
14. Longitudinal thin section, × 25. The mesopores are distributed over almost the whole length of the tube.
15. Transverse thin section, × 25, showing the large central cavity.
16. Tangential thin section, × 50.
Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65413, U.S.N.M.

Plate 161.

Figs. 1, 2. *Platonea clarata*, new species (p. 760).
1. Ovicelled branch, × 12.
2. Nonovicelled branch, × 25.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65441, U.S.N.M.

Figs. 3, 4. *Pleuronea fusiformis*, new species (p. 768).
3. Anterior face, × 25, exhibiting the ovicell.
4. Dorsal of the same specimen, × 25, showing the fusiform turgipores.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65442, U.S.N.M.

Figs. 5–24. *Idmonea triforata* Canu, 1911 (p. 782).
5, 6. Two groups of fragments, natural size.
7. A branch with salient fascicles, × 12. An isolated axial tube occurs at the beginning of the fascicles.
8. Another branch with salient fascicles, × 12.
9, 10. Dorsals of two branches, × 12.
11. An irregular branch, × 12.
Vicksburgian (Marianna limestone): West bank Conecuh River, Escambia County, Alabama.
Cat. No. 65443, U.S.N.M.
12, 13. An inferior branch, × 12, and a portion, × 25.
14, 15. Irregular branches, × 12, with salient fascicles and the isolated axial zooecia at their extremity.
Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
Cat. No. 65444, U.S.N.M.
16. Fascicles broken and opposite, × 12.
17. Dorsal, × 12. The last tube of each fascicle is turned backward.
18. Lateral face of one of the lower branches, × 12.
19–21. Transverse sections, × 25.
22. Median section in a lower branch without axial tube, × 25.
23. Meridian section parallel to the dorsal, × 25.
24. Thin section of the frontal, × 100.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65445, U.S.N.M.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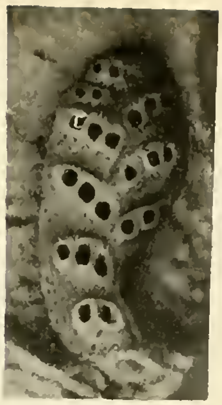
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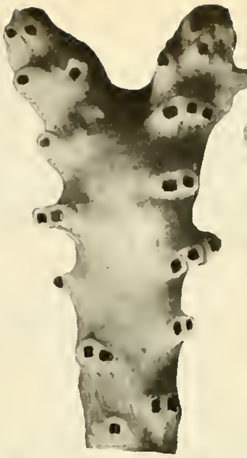
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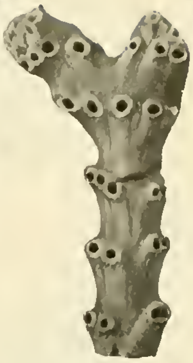
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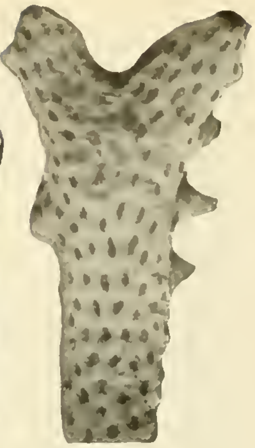
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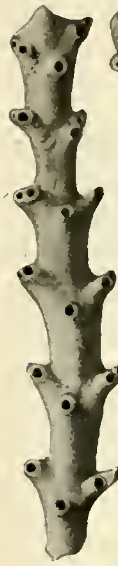
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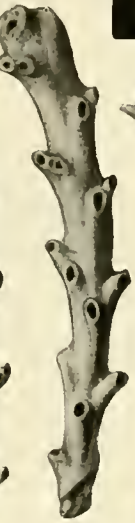
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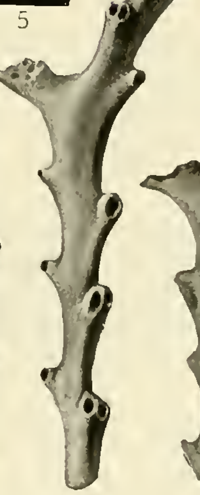
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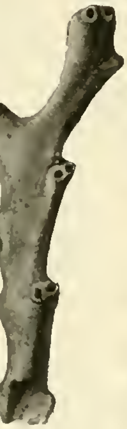
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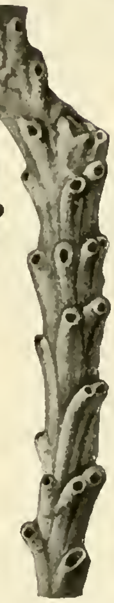
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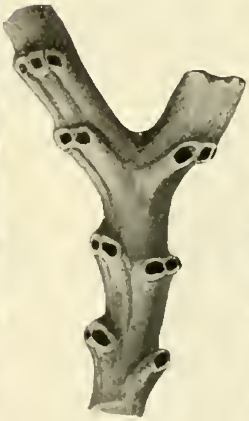
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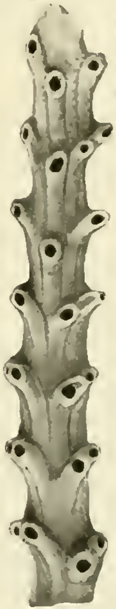
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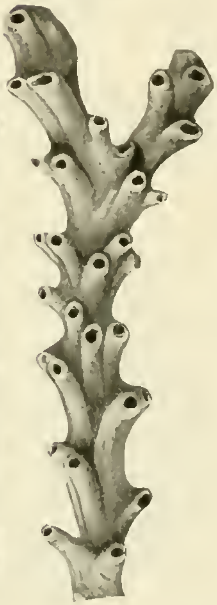
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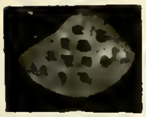
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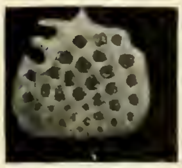
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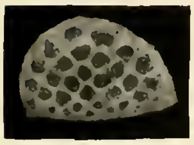
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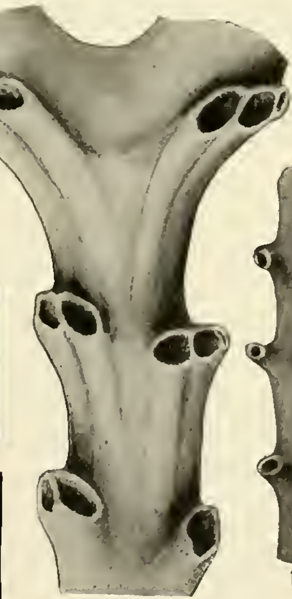
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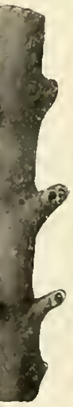
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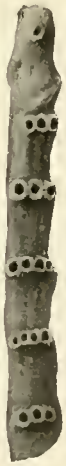
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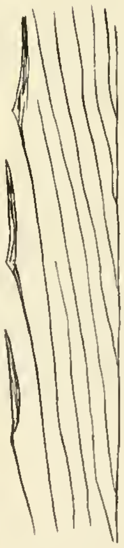
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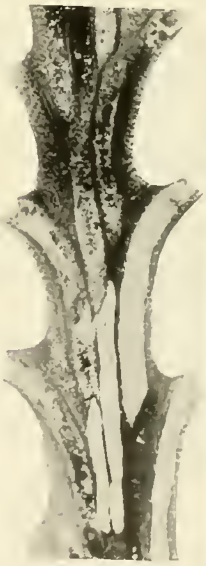
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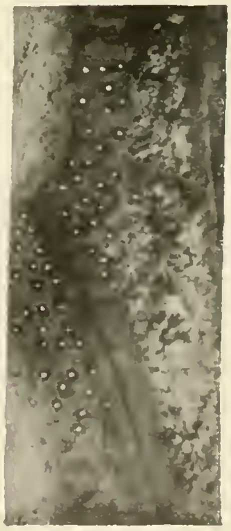
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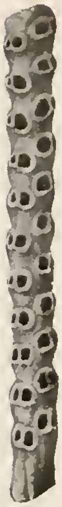
Vicksburgian Cyclostomatous Bryozoa.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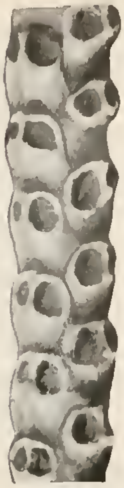
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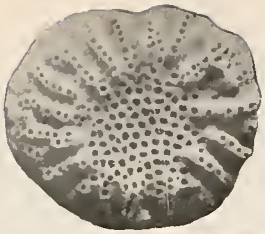
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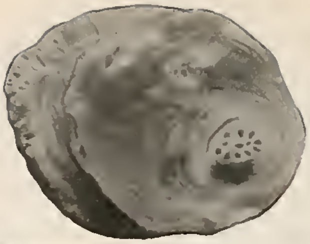
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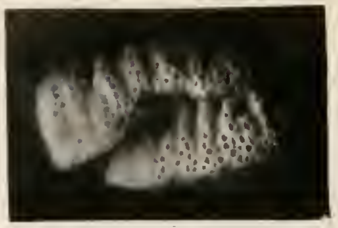
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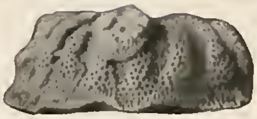
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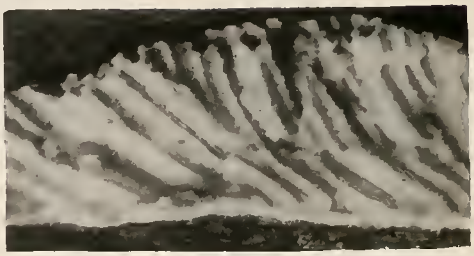
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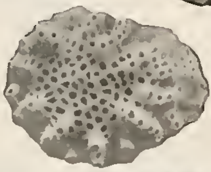
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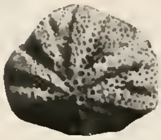
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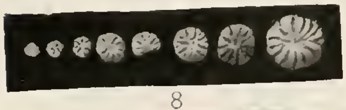
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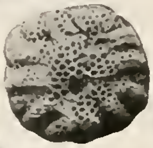
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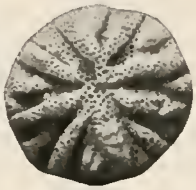
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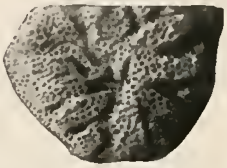
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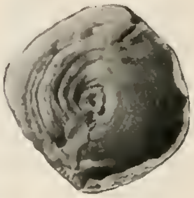
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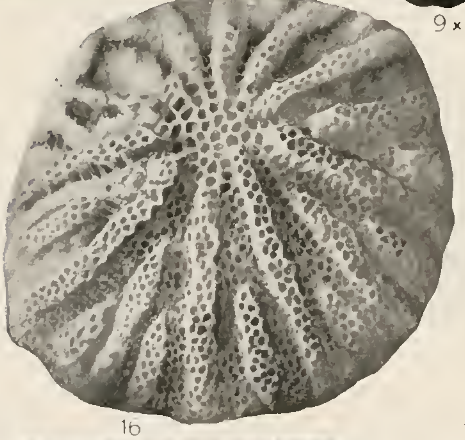
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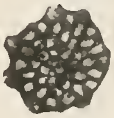
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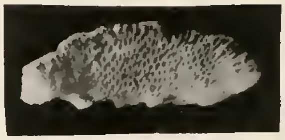
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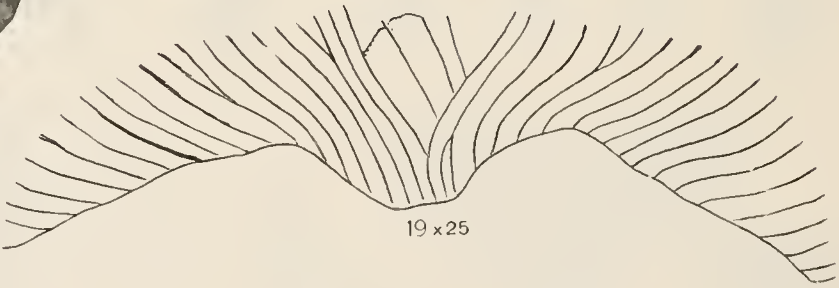
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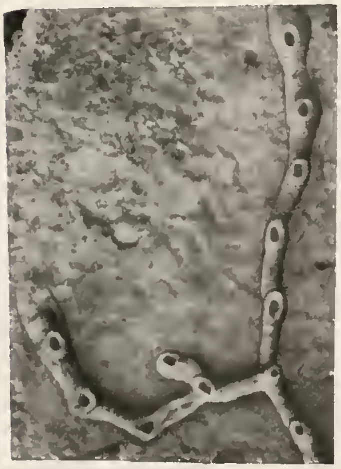
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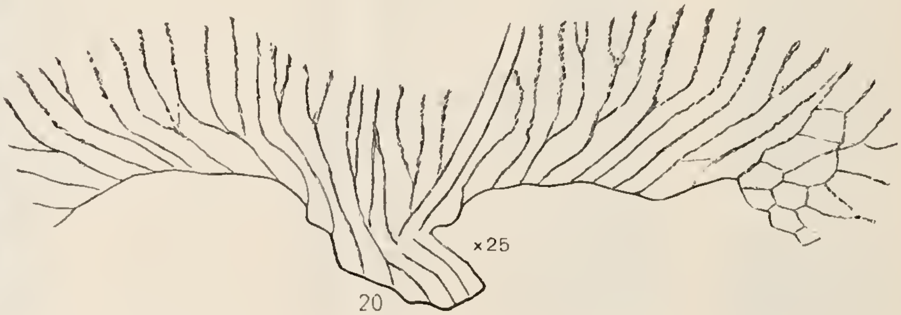
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× 25

VICKSBURGIAN CYCLOSTOMATOUS BRYOZOA.

Plate 162.

Figs. 1–3. *Idmonea grandiora*, new species (p. 783).
Views, natural size, × 12, and × 25, of the zoarium showing the large apertures.
Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65472, U.S.N.M.

Figs. 4–7. *Lichenopora prolifera* Reuss, 1847 (p. 820).
4. A zoarium, × 12, composed of two superposed disks.
5, 6. Basal and lateral views of the same specimen, × 12.
7. A simple discoid zoarium, × 12.
Vicksburgian (Marianna limestone): Salt Mountain, 5 miles south of Jackson, Alabama.
Cat. No. 65473, U.S.N.M.

Figs. 8–20. *Lichenopora goldfussi* Reuss, 1864 (p. 821).
8. A group of the simple discoidal zoaria, natural size.
9–12. Frontal views, × 6, showing various aspects of the zoarium.
13. Lateral view of zoarium, × 6.
14. Dorsal side, × 6.
15. Median fracture, × 25, showing the absence of the spinules from the cancelli.
16. Normal zoarium, × 12, with a small central area and showing the most frequent aspect.
17, 18. Aspect of the zooecia on the basal lamella after its removal, × 6.
19. Longitudinal (median) thin section, × 25, through the fascicles. The two directing zooecia issue from the ancestrula and have a smaller diameter.
20. Another longitudinal thin section, × 25. The cancelli are superposed and ramified.
Vicksburgian (Marianna limestone): One mile north of Monroeville, Alabama.
Cat. No. 65474, U.S.N.M.

Fig. 21. *Stomatopora minuta*, new species (p. 656).
The type specimen, × 25.
Vicksburgian (Marianna limestone): Murder Creek, east of Castlebury, Alabama.
Cat. No. 65475, U.S.N.M.

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